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ART AND CONTEMPLATION

THE notion of contemplation in an aesthetic context has been treated not only by philosophers of art but by many artists themselves. Oscar Wilde, for example, appears to espouse a Platonic type of contemplation not only directed toward the work of art itself but concretized in the sort of life enjoyed by the artist. This contemplative mode of existence consists in a retiring from the distractions of daily, active life in order to look down on life as a whole as though from a tower. Such a view is clearly related to the romantic notion of "art for art's sake" as held by such writers as Flaubert and Baudelaire in France, by Schlegel and Heine in Germany, and in a derived form by Pater in England. Schopenhauer, in fact, would relate all types of contemplation to artistic contemplation, a contemplation of ideas especially found in the genius, who is most of all the artist, for art is the highest achievement the human intellect can attain. The

problem of art and contemplation is proposed in a less romantic fashion in our own time by the New Critics who are preoccupied with the search for total poetic meaning.

The chief difficulty standing in the way of attaching contemplative value to art would seem to arise from understanding contemplation only in the sense in which it strictly characterizes philosophical knowledge, that is, contemplation as a purely intellectual knowing of reality for what it is. When contemplation is so understood, art would not seem to be contemplative because of its inescapable relation to man's emotional life. Although someone like Schopenhauer, despite his emphasis on the voluntary and emotional life of man, will attempt to identify such contemplation with artistic contemplation, many other writers will tend in the opposite direction and deny altogether that artistic experience is a contemplative experience, for example, many logical positivists. The divergence on this point appears to arise from a failure to see that a word has become analogous in meaning. In one sense, contemplation may only be found in philosophical knowledge; in another sense, contemplation may well be other than philosophical. Indeed, the facts of artistic enjoyment would tend to suggest not only that we do have contemplative experience in appreciating works of art but that it is of a distinctive kind.

Louis A. Reid recognizes that aesthetic contemplation will differ from other kinds of contemplation. " The difference may be indicated very roughly by pointing out that in aesthetic, as distinct from other kinds of contemplation, the object is so regarded that the very arrangement of the perceptual data as we apprehend them seems in itself to embody valuable meaning, something the apprehension of which moves, interests, excites us."[1] To be sure, this is a somewhat " rough " indication, and Reid recognizes that the problem of specifying " aesthetic contemplation " is not a simple one. He proceeds chiefly in a negative manner. Aesthetic contemplation is not " sustained " by scientific nor by philosophical interests, nor

[1] *A Study in Aesthetics* (New York, 1954), p. 39.

does it primarily solve theoretic problems; it is not " sustained " by practical and biological interests either. Positively, it seems to be an " imaginative seeing," a perception " but something more." In the last analysis, works of art appear to possess " meanings for aesthetic contemplation which it is beyond words to describe." He refers to, without endorsing completely, the phrase " significant form " as used by Clive Bell. Bell's phrase certainly touches upon something central in artistic contemplation, but the difficulty with the phrase as Bell used it is that it never manifests in what the significance of form consists, since " significance " has to imply a significance of something, and " form " likewise a form of something. Reid's conclusion is that aesthetic significance or meaning is untranslatable.[2]

A close connection obviously exists between truth and contemplation, and hence between artistic truth and artistic contemplation. The problem of what truth in art means and what its relation is to truth in a philosophical sense would need extensive consideration and examination which we cannot undertake here. In a summary and no doubt inadequate fashion, let us say that truth in art consists chiefly in an imaginative understanding of what could be and even, in the artistic sense, what should be the case. The truth of a work of art lies in the comprehension of that sort of probability which is intrinsically interesting. If a work of art is true as an provocative probability, it is by that fact an object of contemplation. This remark is very general, of course, and subject to different sorts of realization in the various fine arts, but it suggests the connection between artistic truth and artistic contemplation which provides the first step toward understanding contemplation as it begins to be proper to art. Dorothy Walsh suggests this nexus in the following quotation:

The primary purpose . . . is to create an object which has

[2] Suzanne Langer, in *Feeling and Form*, while partial to Bell's phrase " significant form," had difficulty with it and finally used " expressive form " or " semblance " as a substitute. She is thereby enabled to give a more consistent explanation without, however, confronting the problem of artistic contemplation.

artistic value. It is exclusively by reference to this value that art may be said to be a 'spirited protest against nature' and to present a concrete alternative to the actual which is intrinsically significant and valuable because it is better than the actual. To be better, by this standard, is to achieve plenitude and richness with structural self-sufficiency.

. . . it seems evident that art does reveal something to us; it has a cognitive content; it affords knowledge. The fact that art moves us, that we respond emotionally to it, cannot, I think, be interpreted to mean either that art is a mere emotional stimulant or that it is mere expression of emotion. . . . There must be some cognitive core, some insight as a focus for emotion.

Hence I suggest that, although a work of art is made out of sensuous material, which, as such, belongs to the actual world . . . nevertheless its prime purpose is to present to us, through sensuous symbolism, an ideal possibility. . . . To enter into the contemplation of it is to leave the context of the actual and to comprehend a concrete alternative as a possibility.[3]

We need, however, to distinguish more fully and more precisely how artistic contemplation differs from philosophical or any other form of contemplation. One point of difference appears already to have emerged. The object of philosophical contemplation is a grasp of reality, so far as possible, for what it is. The object of artistic contemplation is a grasp of what reality might be in that elusive sense of artistic possibility. Of course, philosophical contemplation embraces what is possible as well as what is actual, and hence this first difference between philosophical and artistic contemplation (between what is, and what is artistically probable) may not seem wholly clear cut. There is however, more than one meaning to "possible" and to "probable," and the meaning we are seeking to discern in art will have to be made distinct from that understood in a philosophical context. Obviously, too, the contemplation appropriate to art will have a relation to emotional experience not found in philosophical contemplation. Therefore, in order to clarify the distinctive meaning of contempla-

[3] Dorothy Walsh, "The Cognitive Content of Art," in *The Problems of Aesthetics*, edited by Vivas and Krieger (New York, 1953), pp. 617-618.

tion as it is found in art, we shall first have to relate and contrast it with philosophical contemplation. From this comparison, a proper notion of contemplation as it is found in the experiencing of works of art will begin to emerge.

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The most fundamental distinction one can draw with respect to distinguishing different kinds of knowing is based upon the object that is known. It is in this way that we distinguish, for example, between memory, a knowing power directed to an object known formally as past, and imagination, a knowing power directed to an object known formally as absent or as simply not actually existent. Similarly, seeing is directed to an object known as colored and hearing is directed to sound. Objects as known specify our various mental operations, and it is to objects as known we must turn first to distinguish philosophical contemplation from artistic contemplation.

Philosophical contemplation, first of all, is primarily directed to knowing an object that is necessary, that is, it is an intellectual grasp of something which cannot be otherwise than it is. Such an object may be simple in the sense that we seek to arrive at a definition of this or that kind of thing, e. g., man, animal, vegetable, or mineral, and in so arriving at a definition, or even at only an incomplete understanding, we seek to know a nature as something constant in the midst of change and multiplicity attaching to material singulars of that nature.[4] Such an object may also be complex, that is, a conclusion arrived at by a process of reasoning wherein we seek to prove, for example, that man is able to choose between alternatives or that a triangle has angles which are equal to two right angles. With respect to both kinds of objects, we can arrive at a knowledge of what is necessarily so. Artistic contemplation, on the other hand, is primarily directed to what need not be so, that is, a grasp of something that is contingent. No work

[4] The "what it is" to be a man remains one and the same regardless of how much individual men differ and change. Even if all men were to disappear in a not too imaginative explosion, the "what it is" to be a man would not thereby be affected even though there would be no one around on earth to know it.

of art is necessarily existent either with respect to what it is as a physical reality nor what is presents to be known and enjoyed.[5]

The distinction between a necessary object and a contingent object leads to a correlative distinction between objects known in their universal and singular aspects. Philosophical contemplation is directed primarily to knowing an object as universal in the sense in which both a definition and a conclusion manifest what is common to many, as the definition of man is realized in the many individuals and a conclusion holds for many instances. Artistic contemplation is directed primarily to the grasp of an object in its singular aspects in the sense that it is this man who is a tragic hero, or this landscape which is being represented in a painting.

Universality and necessity as characterizing philosophical contemplation, and individuality and contingency as characterizing artistic contemplation, form the most basic and immediate distinctions between the two types of contemplation, but the distinctions can easily be pressed too far. Artistic contemplation is not at an opposite pole from philosophical contemplation. While artistic contemplation bears immediately on something both contingent and individual, it is not exclusively directed to what is contingent and individual; nor is philosophical contemplation exclusively concerned with what is necessary and universal. Hence we were careful to insert the word " primarily " in stating both distinctions. In the case of artistic contemplation, there are also universality and necessity, but of a different kind from that attained in philosophical contemplation. We can speak of the universality and necessity attained in philosophical contemplation as objective and impersonal, whereas the universality and necessity appropriate to art is a *conferred* universality and necessity, that is, a universality and necessity imposed by the artist on the singular

[5] Shortly, we shall have to consider further the distinction between the necessary and the contingent or the possible, particularly in order to distinguish artistic possibility from a philosophical or a scientific contemplation which remains tentative and probable.

subject of his artistic treatment. King Lear is individually such and such, but he is also a character of a certain kind. The statue is individually so and so, but it also catches universal traits. The artist " reads " a necessity into what is contingent and a universality into what is singular, thus manifesting art's strength and weakness. The strength lies in the artist's being able to interpret what is contingent *as* necessary or somehow inevitable, and to realize something universal about the singular. The weakness lies in the fact that the universality and necessity are not, after all, objective and real, but, in the best sense of the term, contrived.

Philosophical contemplation *finds* meaning by investigating things so far as possible as they are and by seeking to explain them causally. Artistic contemplation *makes* meaning, that is, it imaginatively reconstructs reality in order to bring out an intelligibility which, though not really present in things, nevertheless serves to make things aptly knowable to the human mind. Salesmen do not actually die in just the way Arthur Miller portrays in *Death of a Salesman,* but he makes it understandable how *a* salesman and *this* salesman can come to die.

" Poetic meaning is read into things, so to speak, rather than revealed in them; the objects of poetry are valuable and significant only because over them has been thrown ' a certain coloring of the imagination,'—in Wordsworth's phrase. In the very act of making an image, the poet makes a meaning; but the man of science merely searches out a meaning, that is, he seeks the knowledge of the thing itself through discovery of its causes." [6]

Other characteristics also distinguish artistic contemplation from philosophical contemplation, but in going on to consider them we must keep in mind that these distinctions, as well as the ones we have already given, do not oppose the two types of contemplation but, rather, differentiate them. In seeing that philosophical and artistic contemplation are distinct and yet related, we shall recognize more precisely how " contemplation " is an analogous term, signifying two directions of the

[6] Anthony Durand, " Shelley on the Nature of Poetry," *Laval Théologique et Philosophique,* IV, 2 (1948), p. 234.

human mind in its quest to know. Since a relation between the two types of contemplative knowing exists, it is not surprising to find that at times philosophers are poetic and poets are philosophical, an interchange more often fruitful than not.[7] Nevertheless, the formalities are different, and they must be preserved, if for no other reason than to discern the true value of each. Often enough, the philosopher and the poet may be treating the same subject, e. g., the problem of evil, but the subject admits of a distinctive philosophical treatment as well as one that is poetic.

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To continue our comparison, philosophical contemplation consists principally in arriving at conclusions drawn from principles. It embraces an explicit reasoning process moving from something known as true to something shown to be true as following by way of a consequent. To speak of a reasoning process or a movement of reason from one thing to another is to speak of a discursive mode of knowing. Given the reasoning process of moving from principles to conclusions, philosophical contemplation is clearly discursive in its mode of knowing, but certainly not to the exclusion of intuitive knowing understood as immediate apprehension, for some principles are known intuitively and, further, the term of the reasoning process is the grasp of a conclusion known in the light of principles. Artistic contemplation, on the other hand, is intuitive but, again, not to the exclusion of a discursive mode of knowing. It is primarily intuitive because artistic contemplation bears principally on the " unique singular," as is evident in painting where there is direct viewing of the artistic image embodied in these lines, colors, and figures. That artistic contemplation is also discursive might seem open to question; still, the poetic arts rather evidently include a discursive mode of knowing, and even painting is discursive to the extent that one must, to some degree, " figure out " the meaning a painting seeks to convey. In any event, the discursive mode of knowing

[7] Not to be confused with an opinion holding that to be philosophical is to be poetic and to be poetic is to be philosophical, an interchange that is rarely fruitful.

in artistic contemplation will be analogous to the discursive mode of knowing proper to philosophy. In both cases, there will be a movement of reason from one thing to another, but not in the same way.

This general contrast between philosophical and artistic contemplation in terms of a primarily discursive mode of knowing versus a primarily intuitive mode of knowing has given rise to the argument for the superiority of artistic insight or intuition over philosophical understanding. The argument has a certain plausibility in that, absolutely speaking, an intuitive knowing of the singular is a more perfect mode of knowing than a discursive and abstractive mode of knowing. Intuitive knowing, however, in the strict sense is found in man only in external sensation and in a less strict sense is realized in the origin and term of discursive knowing. The intuitive knowing, characteristic of art, bears on the direct presentation of a material singular, yet it is not the actually existent material singular which is intuited in art but the representation of a material singular.[8] On the one hand, therefore, the totality of the existent material singular escapes artistic knowing, as it does all human knowing but, on the other hand, artistic expression renders the material singular intelligible to human knowing by means of creative imitation, thus conferring an intelligibility on the singular rather than comprehending the intelligibility of the material singular as such.

The superiority of the intuitive mode of artistic contemplation, therefore, is a relative one; it constructs an intelligibility rather than reveals it. Absolutely speaking, philosophical contemplation reveals more knowledge of reality as such even if the material singular escapes its grasp owing to the objective obscurity of the material singular. Artistic contemplation compensates by its conferred intelligibility. Moreover, this artistic grasp of the represented material singular, simulating as it does

[8] The physical mode of existence of a work of art may be described in terms of existing material singulars, e. g., these colors and lines or these tones and sounds, but the aesthetic mode of existence is always a mode of representation, i. e., of creative imitation.

intuitive knowing in its perfection, appeals to man in his desire to know reality as fully as possible even if it involves making reality over to man's own image and likeness. Consequently, artistic, intuitive knowledge is a more human way of knowing insofar as it is more proportioned to the human powers of knowing, and it is this conformity to human knowing that suggests a superiority.

The distinction between discursive and intuitive modes of knowing suggests a distinction between the abstract and the concrete. This is a somewhat ambiguous distinction, however. In a quite legitimate sense, all art is abstract in that it does leave aside some characteristics for the sake of others. The most naturalistic painting is still abstract in the sense that it it not merely a copy of nature in its manifestations. On the other hand, philosophical contemplation is admittedly abstract in a way the artistic contemplation is not, while artistic contemplation is related to the concrete in a way philosophical contemplation is not. This point might be more aptly made by noting that, so far as possible, philosophical contemplation abstracts from sense images whereas artistic contemplation bears directly on the image, that is, on the image as found first in the creative imagination of the artist. Philosophical contemplation departs to whatever extent it can from the image in order to achieve a strictly intellectual knowing through concepts. Artistic contemplation rests with the image, the visual or auditory representation of the idea. The philosophical concept is directed to reality as such but, granted the human limitations of knowing as well as the obscurity of matters, it achieves its object in an abstractive manner. The artistic idea and image are not directed to reality as such but derive as much, if not more, from the creative imagination and mind of the artist. Philosophical contemplation, therefore, is abstractive in the sense that concepts are, whereas artistic contemplation is concrete in the sense that images are, and yet also abstractive because the image operates in conjunction with the idea, thus introducing an artistic conception of the universe as distinct from the philosophical conception.

We must refer again to the distinction between necessity and contingency, this time in order to clarify more what artistic contingency or probability is and how it is distinct from contingency as it may fall within a philosophical context. We exclude without need for comment a philosophical understanding of the *nature* of contingency, which obviously falls within a philosophical grasp and analysis of reality. We are referring rather to philosophical contemplation when it cannot grasp what is true and necessary, but must content itself with attaining what is only probable. How does this differ from what we are calling artistic probability?

Nothing is more desirable, of course, than to attain what is true with certitude, and all human knowing may be said to be ordered to such an ultimate goal. It is quite evident, however, that man does not always attain the certitude of knowing things in their causes. By and large, human knowledge must settle for less. The world of reality is too complex and, in many respects, too obscure to grasp with certitude and determinateness. As a rule, the further we progress in a given domain of knowledge about sensible and physical reality, the less certain we become. The physical sciences illustrate this development most evidently. There is truth and certainty in the philosophy of nature, but both are largely confined to the more common and more elementary considerations. In general, the further we proceed in an investigation of physical reality, the less certain we become with respect to the multiplicity we encounter. Hence the need of hypothesis, especially in the domain of such experimental physical sciences as physics or biology. Unable to render material reality fully intelligible to our knowing, we impose a likely explanation for the phenomena we discover. Human knowledge thus enters into the realm of a dialectic, a seeking of truth by means of *constructing* an explanation in the mind and testing it by verification with observational findings. In this way science, and to some extent philosophy also, deal with the probable in a dialectical examination of reality; most human knowledge, in fact, is dialectical in method, achieving only a probable truth, that is, a likely explanation of reality.

The connection between this approach and an artistic, especially a poetic, grasp should be evident. The hypothesis, as one instance of dialectical procedure, and the work of art agree in several important respects. Both are constructions of the human mind and imagination; both deal with what is probable as distinct from what is necessary in a strict sense; both present what is true in a relative way but not what is true unqualifiedly; both impose an understanding upon things rather than achieve a purely objective explanation of things. Despite these and other parallels which one might draw, there are differences as well, and we are more interested in the differences.

The principal difference turns on the meaning of " probable " as it is found in philosophy or science and as it is found in artistic knowing. The measure of scientific probability is an objective probability founded on actual things and events themselves, that is, on likely connections between things and events in reality. A scientific hypothesis purports to shed light so far as possible on things as they are and on things as they are related to each other. The point of the hypothesis is to bring the human mind to at least some kind of grasp of reality, and since reality cannot always be known simply and absolutely for what it is, the hypothesis is a plausible explanation. Consequently, the measure of scientific probability is still truth in the sense of a conforming of mind to reality or, to put the matter more familiarly though also more loosely, a conforming to the facts as they are so far as they can be observed, " probability " being intelligible in proportion as it approximates such truth. A scientific hypothesis or theory is acceptable also on grounds of simplicity of explanation and on agreement with common sense.[9]

[9] " If we look at the reasons why theories have been actually accepted, however, we soon notice that agreement with facts and simplicity are not the only qualities which a scientific theory is expected to possess. When we remember, for example, Francis Bacon's attitude toward the Copernican theory, we note that he prefers the geocentric (Ptolemaic) theory because it is more in agreement with common sense. We have discussed this requirement on several occasions, and must recognize that there are actually three requirements that have been admitted by scientists:

The measure of artistic probability, however, is not a truth of actual fact which the work of art is seeking to approximate; nor, of course, is there any question of simplicity of explanation or even of agreement with common sense. To say that the work of art is not seeking to approximate truth of fact is not to say that the work of art ignores reality and the truth of fact. If a work of art is imitative as well as creative, then it always implies a relation to the real order as being in some sense a similitude of physical reality or of human nature. And as creative, it is creative in a manner peculiar to art. If we may still speak of a conformity in this context, we must insist that while there is a conformity of the work of art to the real order by means of artistic imitation, there is likewise a conformity of the work of art to artistic, imaginative understanding, found originally in the mind of the artist and shared in by the perceptive beholder and auditor. The probability of art, therefore, is not a probability measured only by a certain kind of approximation to truth of fact, but a probability measured also by a truth of imaginative understanding. Philosophy or science cultivates probability for only one reason, to draw the mind closer to knowing something about reality. Art, and especially the poetic order, cultivates probability in both a real and ideal dimension; it is a " likely story ' of reality, not of what reality actually is but of what reality " ought to be " in the sense of " ideal " as appropriate to art. At the risk of oversimplification, we might say that scientific probability is a real probability while artistic probability is an ideal probability.

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The contrast between philosophical and artistic contemplation may now finally be summarized. Common to all contem-

agreement with observations, simplicity, and agreement with common-sense experience. We should certainly point out that what is regarded as ' simplicity ' and ' common sense ' is a matter of the social background of a theory. There is, therefore, a certain justification for restricting ' purely scientific ' criteria to the agreement with facts. Then we should regard ' simplicity ' and ' agreement with common sense ' as sociological criteria." Philip Frank, *Philosophy of Science* (Englewood Cliffs, N. J., 1957), pp. 353-354.

plation is a resting of the knowing power in the knowledge which it attains of some object.[10] Taking philosophical contemplation in a broad sense as extending to theoretical knowledge generally, we find that it deals with necessity and, by extension, probability in the objective senses of the terms, that it knows what is universal as abstracted from the singular, that it finds meaning in things and events, that it is primarily discursive though also intuitive, and that it is abstract rather than concrete. Artistic contemplation, on the other hand, deals with the contingent rather than with what is strictly necessary and yet it confers a necessity upon the contingent; it deals with an ideal probability rather than a real probability; it knows the singular but as something universal is realized in it; it implants meaning on things or events in the sense of reading meaning into things and events; it is primarily intuitive but also discursive; finally, it is concrete rather than abstract in the sense in which philosophical knowing is abstract.

In addition to these contrasts, we may note also a special delight or delectation which accompanies artistic contemplation. Of course, a delight is also found in philosophical contemplation, springing originally from the innate desire of man to know, so far as he can, the truth about things, a desire that is satisfied when he does in fact arrive at a full understanding of this or that object. Philosophers, mathematicians, and scientists certainly experience a genuine delight in acquiring their respective knowledge. Nevertheless, artistic contemplation has a special delight, perhaps better understood as delectation, a distinctive type of intellectual pleasure. The phrase " intel-

[10] We have not mentioned mystical contemplation, which is beyond the scope of our inquiry. Let us note only that mystical contemplation is not a kind of contemplation which consists merely in knowing God, for this sort of knowledge, attained through discursive reason, is part of philosophical contemplation. Properly speaking, mystical contemplation is infused contemplation. Philosophical and artistic contemplation are types of acquired contemplation. Mystical or supernatural contemplation is " that contemplation which God Himself lovingly infuses in whom He wishes, and as He wishes, without its being due to human industry in acquiring, perfecting, or even prolonging it." J. G. Arintero, O. P., *The Mystical Evolution* (St. Louis, 1949) I, p. 17. Cf. also St. Thomas, *Summa Theol.* II-II, q. 180.

lectual pleasure" suggests a combination of intellectual and sense delight found peculiarly in the contemplation of a work of art. First of all, especially in painting or music, there is an immediate grasp of pleasurably perceived sense qualities, such as color and line, or sound and harmony. The concrete embodiment of something significant in a sensed medium attracts man by appealing at once to the sensitive side of his composite nature. Such an appeal has a concreteness and directness which intellectual knowing alone does not attain. Artistic perception, to a point, cultivates this pleasure of sense cognition for its own sake.

However, this initial sense gratification is not yet formally delectation in the artistic sense. While such delectation accompanies artistic contemplation, the more or less immediate impact of a work of art on sense cognition, important though it is, is not yet contemplation in any legitimate sense. Any form of contemplation must include some intellectual knowing. Even in the initial sense perception of a work of art there is some intellectual knowing, for artistic experience always unites sense and intellectual cognition. This conjoined operation of knowing powers distinguishes human artistic perception and enjoyment of a work of art from the mere sense cognition which animals have in seeing a painting or hearing a musical composition.[11] Admitting, then, this intimate conjunction of cognitive powers, we may still distinguish what the intellect knows and what the sense perceives in a work of art.

It is the intellectual part of artistic appreciation of a work of art that constitutes artistic contemplation, not, it must be said again, apart from sense perception, but in conjunction with it. Part of this contemplation consists in the grasp of the artistic structure of the work of art, e. g., in the grasp of the artistic elements entering into the rhythmic, melodic, and harmonic construction of a musical composition or of the plastic elements entering into the structure of a painting. In this

[11] True enough, some animals can react to music to a degree, thanks to the element of rhythm primarily, but no one would regard such a reaction as in any sense an artistic appreciation of music.

respect, a work of art is a self-contained object. Assuredly, no one can deny the importance of such aspects of the work of art and the need of grasping them precisely as they enter into the intelligibility of appreciating a work of art. Such apprehension constitutes an important part aesthetic appreciation.

Nevertheless, such artistic discernment and perception are by no means the whole of artistic contemplation nor do they constitute wholly the delectation which accompanies artistic contemplation. More formally, the delectation appropriate to artistic contemplation arises from knowing some object as creatively imitated or represented. It is clearly not the simple knowing of the original object itself that is artistically delectable, e. g., no real tragic event would be an object of artistic contemplation that is delectable. It is the recognition of an imitation of such an original object that affords a contemplation at once delectable.[12]

The delight peculiarly found in artistic contemplation is caused chiefly by seeing in the work of creative imitation a more perfect, i. e., a better formed and more intelligible, object than the original is, thanks to the imaginative understanding of the artist. The action of the play is more intelligible and more significant than ordinary action in human life. The sound of music is better formed and more intelligible than the original sound of the human voice is emotionally expressive. The portrait creatively represents traits of character only virtually present in the original. In such artistic representation, we are led from the original itself to the creative imitation of it by which we gain an intelligibility and a certain universality about the original object or event which we previously did not possess. This experience is a pleasing one. We delight in this artistic understanding. In virtue of being a delightful, creative imita-

[12] "It is also natural for all to delight in works of imitation. The truth of this . . . is shown by experience: though the objects themselves may be painful to all, we delight to view the most realistic representation of them in art. . . . The explanation is to be found in a further fact: to be learning something is the greatest of pleasures . . . the reason of the delight in seeing the picture is that one is at the same time learning—gathering the meaning of things." Aristotle, *Poetics*, 4, 1448b 9-17. (Bywater translation).

tion, a work of art takes on the formality of knowledge and doctrine, providing us with an object of contemplation.

The consideration of artistic contemplation which I have made in this article remains necessarily general and unspecified. For the most part I have treated artistic contemplation in the context of fine art generally, contrasting and comparing it with philosophical contemplation, without investigating how artistic contemplation is actually realized in different ways in the poetic arts, for example, in painting, or in music. Without such further consideration, and particularly without observing the analogical realization of 'artistic contemplation' in the different arts, this investigation of this species of contemplation is still inadequate, though perhaps sufficient for discerning the sense in which artistic contemplation is distinct from other types of contemplation. In the last analysis only one's individual experience in appreciating works of art will make fully manifest the contemplative value of one's artistic enjoyment. Speculative analysis may help to explain but it can never take the place of actual poetic experience. Nevertheless, in the conviction that such analysis is both useful in the construction of a sound poetics and an aid in enlarging poetic delight, I hope at a later time to indicate to some extent how contemplation is realized in poetry, painting and music. In these diverse media the poetic object remains analogically the same while poetic contemplation remains an intuitive, concrete, inventive way of knowing the ideal probabilities that are the proper object of such contemplation.

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THE LIBERAL ARTS IN ST. THOMAS AQUINAS

TODAY there is a common tendency to identify the classical notion, "the liberal arts," with another ancient notion," the humanities." To many the term "art" suggests an ability which is "creative," imaginative, free of any rigid standards of objectivity or narrow precision. It implies the intuitive, the emotional, the "existential response" of the "whole man." The term "liberal" seems merely to emphasize these connotations by indicating that the practitioner of such arts must be open-minded, tolerant of discussion and debate, generous and sensitive to the many facets of reality. The term "humanities" has similar connotations. It suggests an approach to learning which is humane, which takes into account not only the object to be known, but the subject who knows and reacts to it.[1]

In view of this usage it is not strange that to many the liberal arts seem the very antithesis of the *sciences*. Science, as it is conceived today, connotes objectivity, precision, a rigid adherence to the "scientific method," a complete indifference to the "human equation." It seems an activity in which man is only cerebrally engaged and which requires the exclusion of all subjective overtones and of all interplay of individual taste or intuition. The scientific work must be something which can be repeated and retested by anyone trained in the technique. While the humanities are concerned with the inner nature and personality of things and of men, science is concerned only with data that can be measured.

To be sure, some scientists have hastened to tell us that their activity *is* creative, imaginative, free, and that it does express the personal passion and style of the discoverer. But it is hard

[1] For the contemporary view see David H. Stevens, *The Changing Humanities An appraisal of old values and new uses* (New York: Harper, 1953).

to recover this human element from the scientific work itself, from which it has been rigorously screened. Hence, it is thought by many, science can take on a liberal character only if it is treated from the viewpoint of the biography of the scientist and the record of his investigations, or in terms of the effect of his discoveries on human attitudes in the history of culture.

Hence it is not surprising that today even those who take their stand for the strengthening of liberal arts education frequently find it embarrassing to explain why, in the traditional list of the seven arts, the *quadrivium* consists of mathematical subjects which today are considered exact sciences, while from this list are omitted many of the studies which seem most truly humane and liberal, particularly history, philosophy, and the plastic arts.

Although this difficulty has been felt by many, it has seldom been faced squarely. St. John's College, Annapolis, and the General Program at the University of Notre Dame have courageously attempted to include the study of the classics of mathematics, astronomy, and music (the *quadrivium*) in their plans of liberal arts study. In somewhat different fashion the St. Xavier Plan of St. Xavier College, Chicago, has adopted the same policy of fidelity to the tradition.[2] But most schools emphasizing the liberal arts have preferred to group the mathematical subjects with the physical sciences, and touch upon them only as cultural influences in the context of the literary and historical "humanities." Indeed the present emphasis on more mathematics and science, fostered by the defense crisis, has appeared to many educators as the death of the liberal arts ideal.

One of the most carefully reasoned statements of this rather widely held position was given recently by a thinker who is actively engaged in promoting and developing the humanities in Catholic education, James V. Mullaney, in his article "The

[2] See *The St. John's Program, A Report* (Annapolis: St. John's College Press, 1955); *The General Program of Liberal Education* (Brochure) (Notre Dame: Notre Dame U., Indiana); and *The Liberal Education of the Christian Person* (Chicago: St. Xavier College, 1953).

Liberal Arts in the Aristotelian-Thomist Scheme of Knowledge." [3] It provides us a learned and direct confrontation of the current and the traditional views and will assist us in the following pages to judge the case on its own merits.

I: *What is the origin of the Thomistic theory of the liberal arts?*

Dr. Mullaney begins his discussion by reminding us that some scholars believe that the notion of the liberal arts is of Stoic origin. Consequently the question arises whether St. Thomas accepted this notion merely because he mistakenly supposed that it was a part of the Aristotelian heritage, and apologized for it as well as he could. A similar position has recently been taken by Robert Brumbaugh and Nathaniel M. Lawrence, Jr., with the difference that they believe the liberal arts to be of Platonic origin.[4]

Actually neither of these views is historically tenable. It is true, of course, that the first actual listing of the liberal arts as seven in number is found in the work of Martianus Capella (fifth century A. D.), who apparently derived his enumeration by omitting architecture and medicine from a list given by the Roman encyclopaedist Varro (first century B. C.), and that both of these writers were, in a vague way, Stoics.[5] However, both are highly eclectic writers, and the fact that they are important in canonizing this list, does not mean that they originated it, or that they drew it from Stoic sources.

Indeed, as regards the problem of the *quadrivium*, the Stoics

[3] The Thomist, XIX (1956), 481-505.

[4] "Aristotle's Philosophy of Education," *Educational Theory*, Jan., 1959. The authors remark (p. 51): "Ironically, his (Aristotle's) authority has been cited to justify notions he would certainly not have approved. The *trivium* and *quadrivium* which repeat the Platonic optimism in their stress on form, are an example." By this they mean that it is typical of Platonism to believe that some universal formal method is the key to truth, while it is typical of Aristotle to deny that there is any such simple clue, since there are many types of problems which require diverse and specialized methods of solution.

[5] See R. M. Martin O.P., "Arts Libéraux (Sept.)," in *Dictionnaire d'histoire et géographie ecclésiastiques*, tom. 4, 827-843; and Friedrich Ritschl, "De M. Terentii Varronis disciplinarum libris commentariis," *Opuscula Philologica* (Leipzig: Teubner, 1877), III, 352-402.

never showed much interest in mathematics or the mathematical sciences, which played but a small role in their moralistic philosophy. The only Stoic writers who had mathematical interests, of whom Posidonius is the chief, are precisely those who had undergone strong Platonic or Peripatetic influences.[6]

Brumbaugh's suggestion is far more plausible, since the liberal arts are all referred to in one form or another in the Seventh Book of the *Republic* (see 522 A ff.), along with the notion that such arts form a *via* by which the student rises from opinion to true philosophy. Certainly the idea that mathematics, especially astronomy, is the path by which the mind passes to the realm of intelligible being and true science is one of the chief notes of Platonism.

Yet Plato cannot have been the originator of the liberal arts, for two fundamental reasons. First is the plain fact that these arts antedate Plato. Plato tells us himself that the *quadrivium*, exactly as we have it but without that title, was taught by the Sophist Hippias (*Protagoras* 318 E). Indeed, it is practically certain that these four mathematical arts go back to Pythagoras, or his school.[7] As to the *trivium*, the division of literary education into a more elementary study of letters (grammar) and a more advanced study of composition (rhetoric) was pre-Socratic.[8] In his lost dialogue, the *Sophistes*, Aristotle himself attributed the origin of dialectic to Zeno of Elea, and rhetoric to Empedocles.[9]

A second reason why we cannot admit that the seven liberal arts are purely Platonic is that this does not agree in detail with Plato's conceptions. It is well known that Plato strongly depreciates both grammar (as the study of the poets, *Republic* X) and rhetoric (*Gorgias*), and that for him dialectic (logic) is not a liberal art, but is philosophy itself.[10] Hence, at the

[6] Max Pohlenz, *Die Stoa, Geschichte einer geistigen Bewegung*, (Göttingen, 1948, 2 vols.), I, 50, 231; II, 105.

[7] See H. I. Marrou, *A History of Education in Antiquity* (New York: Sheed and Ward, 1956), pp. 46 ff. and 177 ff.

[8] *Ibid.*

[9] See Diogenes Laertius, VIII, 2, 57; Sextus Empiricus, *Adversus Math.*, I, 6-7.

[10] Of course Plato's criticisms of rhetoric and grammar are at the same time an

most, we can attribute to Plato some influence on the liberal arts tradition, but neither its origin nor its present form.

The real question is what Aristotle thought of these liberal arts which were the practice of the schools, and to which different interpretations and classifications might be given. Aristotle distinguishes liberal from servile studies on the grounds that the former are not utilitarian.[11] We know that among the liberal studies he included grammar (reading, writing), and the study of music, to which he says that drawing might be added.[12] Music, of course, is connected with poetry, which in turn, like rhetoric and dialectics, is rooted in logic in the strict sense.[13] Hence it safe to say that Aristotle considered the *trivium* as the basis of education, although for him the tripartite division is not significant.

The problem of the *quadrivium* is, indeed, more difficult, and here Dr. Mullaney may find some grounds for his view. Aristotle does not attribute the same kind of importance to mathematics as does Plato, since for him ascent to metaphysics is through physics, while mathematics is only a bypath.

Nevertheless, it is clear from *Ethics* VI (9, 1142a 19) that Aristotle believed that mathematics has a role in the education of the young and that it *precedes* the study of natural science. In our present list of liberal arts there are two features which are distinctly *not* Platonic, but Aristotelian: (1) logic is considered as distinct from philosophy; (2) mathematics as a liberal art is distinguished from natural science, which is one of the divisions of philosophy.[14]

appeal for a new and more philosophical version of these arts. Nevertheless, in *Republic* VII, in the account of the ideal education, these arts are left in the shade, and the emphasis is wholly on the mathematical arts.

[11] *Politics* VIII, 2, 1337b 6 ff.

[12] *Ibid.*, 3, 1337b 24.

[13] See the first chapter of the *Rhetoric* and the *Poetics*, 19, 145a 34.

[14] It is possible, however, that Xenocrates, Aristotle's fellow pupil, may also have played a role in distinguishing between dialectics as it is the higher philosophy for Plato, and logic as it is a liberal art, since Sextus Empiricus, *Adversus Log.*, I, 16, attributes the tripartite division of philosophy into rational philosophy (logic), physics (which included natural science and metaphysics), and ethics to him, and says it was adopted by the Academics, Peripatetics and Stoics.

The tradition as we actually have it probably originated in the schools of Athens and Alexandria under those mixed Platonic and Aristotelian influences which reigned throughout the Hellenistic period. The Epicureans rejected the whole notion, while the Stoics accepted it, but it does not appear that the Stoics added anything to it of importance unless we may attribute to them the conception of grammar as we now understand it. The earlier grammar was an unsystematic subject, and the Stoics did contribute to its more systematic study.[15] But even as regards grammar we must recall that the Stoics were only developing certain suggestions already present in Peripatetic thought, which had a vigorous growth independent of Stoicism among the literary critics of Alexandria.[16]

This historical survey, therefore, indicates that St. Thomas was not unhistorical in supposing that the liberal arts were compatible with the Aristotelian tradition. Rather his problem was to use the scattered remarks on the subject which are to be found in Aristotle's writings, and to give to the common and eclectic tradition of antiquity an interpretation which would be consistent with Aristotelian principles. We will see that this is exactly what he did, and that he showed rare historical as well as doctrinal tact in freeing this tradition from incompatible Stoic and Platonic influences.

St. Thomas quite unequivocally identifies the liberal arts with integral parts of the Aristotelian system. More specifically, he identifies the *trivium* of grammar, logic, and rhetoric, with *logic,* and the *quadrivium* of arithmetic, geometry, music, and astronomy with *mathematics* in the Aristotelian scheme of

[15] Pohlenz, *op. cit.,* I, 37-63; Marrou, *op. cit.,* p. 183, notes that in the Hellenistic period there was a strong tendency for the literary or humanistic studies to overshadow the *quadrivium.* "I ask those of my readers who are Greek and Latin scholars to decide: Is it not clear from the classics of this era that Hellenistic culture was predominantly literary in character and had little room for mathematics? It follows that mathematics played very little active part in the formation of the mind."

[16] See W. Jaeger, *Aristotle, Fundamentals of the History of His Development* (Oxford, 1948), pp. 328 ff., and J. E. Sandys, *A Short History of Classical Scholarship* (Cambridge, 1915), pp. 30-52.

a man's progressive learning. Thus, in answer to the objection that natural science and divine science should not be considered parts of speculative science since they are not enumerated among the seven liberal arts "into which philosophy is commonly divided," he states:

. . . The seven liberal arts do not sufficiently divide theoretic [or speculative] philosophy, but as Hugh of St. Victor says in Book III of his *Didascalion* certain others having been passed over, seven are enumerated, since in these it was customary first to educate those who wished to learn philosophy. And therefore they are divided into the *trivium* and *quadrivium*, "since by these, as by certain paths [or *viae*], the lively mind enters in to the secrets of philosophy."

And this also agrees with the words of the philosopher, who says in *Metaphysics* II that the method of science should be sought before the sciences. And the Commentator [Averroes] states in the same place that logic, which teaches the method of all the sciences, should be learned by one before all the sciences. To this pertains the *trivium.*

He also says in *Ethics* VI that mathematics is able to be known by boys, but not physics, which requires experience. From which one is given to understand that first *logic,* then *mathematics* should be learned. To this (latter) pertains the *quadrivium.* And thus by these, as though by certain paths, the mind is prepared for the other physical disciplines.[17]

Having identified the *trivium* and *quadrivium* with *logic* and *mathematics* in the Aristotelian sequence, St. Thomas, in his exposition of the passage of *Ethics* VI which he alludes to above, proceeds to sketch out the full sequence of studies fit for a man:

The fitting order of learning will therefore be as follows: *First,* boys should be instructed in logical matters, since logic teaches the method of the whole of philosophy. *Secondly,* however, they should be instructed in mathematics, which neither requires experience, nor transcends the imagination. *Thirdly,* they should be instructed

[17] *In Boetii de Trinitate,* q. 5, a. 1, ad 3 (Decker). Following the Wyser edition, one would have, in the last line, "philosophical" rather than "physical." All translations of works of St. Thomas, including those from the *Summa Theologiae,* are by the authors, and are deliberately literal.

in natural things, which, even though they do not exceed sense and imagination, nevertheless require experience. *Fourthly,* in moral matters, which require experience and a mind free from the passions, as is stated in Book I. *Fifthly,* however, in sapiential and divine things, which transcend the imagination and require a strong intellect.[18]

Dr. Mullaney refers to this order as "the proper sequence of studies, according to Aristotle." Actually, however, it is not contained in so many words in the text of Aristotle, but is rather in the nature of a conclusion drawn by St. Thomas from Aristotle's consideration of the various disciplines in relation to the various stages in the development of the mind, in the *Ethics.*[19] That St. Thomas was quite committed to it may be seen from the fact that he already sets it down in one of his earliest works, *In Boetii de Trinitate,* in connection with the objection that, in the order of the speculative sciences, mathematics should be placed before physics, since it is natural for it to be learned before:

. . . Mathematics presents itself to be learned before natural science, since boys can easily learn mathematics, but not natural science until more advanced, as is stated in *Ethics* VI.

Whence among the ancients the following order is said to have been observed in learning the sciences: namely, that first, logic should be learned; then, mathematics; thirdly, natural science; afterwards moral science; and finally men should strive for divine science. Therefore mathematics should have been ordered before natural science.[20]

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[18] *In X Libros Ethicorum,* VI, l. 7, no. 1211 (Spiazzi).

[19] VI, 1142a 10-20. Curiously, St. Thomas found it quite hard to find a text in which Aristotle says that logic comes first! He makes use of the brief sentence in *Metaphysics* II (995a 14), "It is absurd to study a science and its method (*τρόπος*) at the same time." Yet anyone familiar with Aristotle's procedure will be convinced that he presupposes a good acquaintance with logic on the part of the student of any of the sciences which he treats. The only works where this knowledge of logic is not taken for granted are precisely in the logical works themselves (notably the *Poetics, Rhetoric, Topics,* and, if it is authentic, the *Categories*), where there is an avoidance of explicit use of technical logical terms, until they have been first defined.

[20] q. 5, a. 1, obj. 10. Some may be uneasy about accepting the *In Boetii de Trinitate* as expressing the true mind of St. Thomas in view of the fact that it is

While granting that the *universal* (or scientific) teachings of natural philosophy, which require for their collation experience and time, come to be learned after those of mathematics, which do not require extensive experience, St. Thomas in his response nevertheless states that natural things, as *sensible,* are naturally better known than mathematical things *abstracted* from sensible matter. Consequently, the more abstract knowledge of the *object* of mathematics comes into focus subsequent to the knowledge of the *object* of the philosophy of nature, even though the *science* of the former is then acquired prior to the latter.

The same order is deliberately set down again by St. Thomas in the *Prooemium* of one of his final works, the *Exposition of the Liber de Causis* (1269-73), by way of showing, from that order, how man's intellectual progress culminates in the best attainable knowledge of first causes:

> . . . Wherefore they (the philosophers) set the science of first causes at the end, to the consideration of which science they were to depute the final time of their life.
>
> a) Beginning, indeed, from logic, which transmits the method of the sciences;
>
> b) Secondly, proceeding to mathematics, of which even boys are capable;
>
> c) Thirdly, to natural philosophy, which, because of the need of experience, requires time;
>
> d) Fourthly, to moral philosophy, of which a young man cannot by a suitable student;

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an early work, and that in commenting on Boethius, St. Thomas is quite obviously trying to reconcile the views of a number of authorities of very disparate philosophical character. A study of the texts collected in the present article, however, should set any such fears at rest, since the most crucial points are repeated in the *Summa Theologiae* and in such late works as the commentaries on the *Liber de Causis* and the *Metaphysics* and *Ethics*. Furthermore, it will be noted that the references occur in the *Prooemia* of these works where St. Thomas is not commenting on a text, but speaking *in propria persona,* or in passages where he is expanding the text with the purpose of incorporating his own special views. Someone might reasonably doubt that Aristotle had any such developed theory of the liberal arts, but this is all the more reason for taking this theory as that of St. Thomas himself.

e) Finally, however, they devoted themselves to divine science, which considers the first causes of beings.[21]

It should be noted, in connection with the consistency with which St. Thomas lays down what he calls "the fitting order of learning," consisting of logic, mathematics, natural science, moral science, and metaphysics, in that order, that this is not exclusively the ideal order of learning for philosophers, but the ideal order of learning for *any* man aiming at a *liberal* education, an education beginning with the liberal arts and having as its term the most liberal of all sciences, namely, divine science or metaphysics. Who should aim at a liberal education? *Every* man, as man, is oriented toward the goal of such an education, to be perfected in the life to come, and where the gifts of grace will more than compensate for any natural lack of attainment. Thus, in the *Prooemium* just mentioned, St. Thomas, previous to setting down the order of study leading to the study of the first causes, or divine science, shows that such a knowledge is indeed the end of man:

> It must be, therefore, that the ultimate happiness of man which can be had in this life, consists in the consideration of the first causes—since that least which can be known of them, is more lovable and noble than all those things which are able to be known of lower things, as is evident from the words of the Philosopher in *De Partibus Animalium* I (644b 32-34).
>
> Now accordingly as this knowledge is perfected in us after this life, a man is made perfectly happy, according to the words of the Gospel: *This is eternal life, that they should know thee, the true, living God.*[22]

For those who have not attained to such an acquired science

[21] *Super Librum de Causis Expositio, Prooem.*, no. 8 (Saffrey, 1954). This order already substantially appears in Moses Maimonides' *Guide of the Perplexed*: "Whoever wishes to acquire human perfection must first learn logic; then be gradually instructed in mathematics; afterwards, however, in physics; and after this in metaphysics." (See M. Friedländer's trans. London 1904, c. 34, no. 46).

[22] *Super Librum de Causis, Prooem.*, no. 5-6. The passage cited here by St. Thomas from *De Partibus Animalium* is also quoted in *Summa Theol.*, I, q. 1, a. 5, ad 1; I-II, q. 66, a. 5, ad 3; II-II, q. 180, a. 7, ad 3; *De Anima* I, l. 1, no. 5 (cf. note 94).

and wisdom in this life, the reward of charity will bring with it its equivalent and more in the next: ". . . Nothing prevents someone who is less good from having some [acquired] habit of science in the future life, which someone who is better does not have. But nevertheless this will be as of no consequence in comparison to the other prerogatives which the better will have." [23]

Thus, to the extent that one is educated, one will, according to St. Thomas, follow the sequence beginning with the liberal arts connoted in the first two steps of *logic* and *mathematics*, continuing on to the study of the nature of things in *natural science*, which culminates in the science of the first causes, *divine science* or *metaphysics*.[24] Between natural science and divine science there is found *moral science*. What is its role? It might seem that moral science, especially in its most eminent branch, political science, constitutes a terminus or a goal in itself, that of the perfection of the *active* life in comparison to the other goal which is the perfection of the *speculative* or contemplative life, attained in divine science. This is, however, neither according to the thought of Aristotle, nor to that of St. Thomas, for both of whom the natural course of human life is not *either* to the active *or* the speculative, but rather *from* the active *to* the speculative. Thus Aristotle states: ". . . We are busy that we may have leisure, and make war that we may live in peace. . . . If among virtuous actions political and military actions are distinguished by nobility and greatness, and these are unleisurely and aim at an end and are not desirable for their own sake, but the activity of reason, which is contemplative, seems both to be superior in serious worth and to aim at no end beyond itself . . . it follows that this will be the complete happiness of man. . . ." [25] St. Thomas does not differ from

[23] *Summa Theol.*, I, q. 89, a. 5, ad 2.

[24] The continuity between natural science and divine science may be seen in the division of the sciences given by St. Thomas at the beginning of his exposition of the *Ethics*, where he states: ". . . To natural philosophy it pertains to consider the order of things which the reason considers but does not make—in such a way that under natural philosophy we should also include metaphysics." (*I Ethic.*, l. 1, no. 2).

[25] *Ethics.*, X, 1177b 5-25.

this view. Thus, speaking of the relative merits of the intellectual virtues of wisdom, whose object is divine science, and of prudence, which reaches its highest state in political science, he quite definitely makes the latter the handmaid of the former:

> . . . It does not belong to prudence to interfere concerning the highest things, which wisdom considers. Rather it commands concerning the things which are ordered to wisdom, namely, as to how men are to arrive at wisdom. Whence in this is prudence, or political science, the servant of wisdom—for it introduces to it, preparing the way for it, as the doorkeeper does for the king.[26]

Because of this unequivocal subordination by Aristotle and St. Thomas of the active to the speculative, prudence to wisdom, moral science to divine science, it is clear that those curricula which, conversely, rank metaphysics as a kind of prelude to ethics, can in no way claim to be following the thought of the Angelic Doctor.

II. *St. Thomas is explicit concerning the liberal arts and their functions.*

Today, looking at the very broad way in which the term "liberal arts" is used—as applied, for example, to what may be designated as a "liberal arts curriculum"—one might imagine that the term is equally obscure in St. Thomas. Such is not the case. As has been seen above, St. Thomas relates the *logic* of Aristotle, considered as the indispensable learning of the method of the sciences before the sciences themselves, and the *mathematics* of Aristotle, considered as the science which one can most easily learn, the *trivium* and the *quadrivium* respectively. In the same early work where he does this, namely, *In Boetii de Trinitate*, he continues, describing what each of the seven does:

> Another reason why these [the seven liberal arts, which are preparatory to speculative science, rather than its substance] are called, among the other sciences, 'arts' [rather than 'science'], is that they not only have knowledge, but a certain *product*, which is im-

[26] *Summa Theol.*, I-II, q. 66, a. 5, ad 1.

mediately of reason itself, such as to form a construction [grammar], syllogisms [logic], a discourse [rhetoric]; to number [arithmetic], measure [geometry], form melodies [music], compute the courses of the stars [astronomy].[27]

St. Thomas also underlines the distinctive "making" aspect of the liberal arts in the *Summa Theologiae*:

. . . Even in speculative things themselves there is something after the manner of a certain product, such as, for example, the construction of a syllogism [logic], or of a fitting discourse [rhetoric]; or the work of counting [arithmetic] or measuring [geometry]. And therefore whatever speculative habits are ordered to such works of reason, are called, because of a certain likeness, "arts," namely, the "liberal arts," in distinction to those arts which are ordered to works carried out by the body—which are in a certain sense "servile," in so far as the body is subject to the soul as a servant, and man according to his soul is free (*liber*).[28]

Since, therefore, the speculative reason makes certain things, such as, for example, a syllogism, a proposition, and other such, in which one proceeds according to certain and determinate ways, consequently, with respect to these the notion of "art" may be maintained. . . .[29]

Since it is evident that when St. Thomas speaks of the "liberal arts," he does indeed mean the logical *trivium* of grammar, logic and rhetoric, and the mathematical *quadrivium* of arithmetic, geometry, music and astronomy, it now remains to be seen how definitely he identifies the nature of these "liberal arts," which are apparently not quite the same as either the speculative sciences or the mechanical arts. To return to *In Boetii de Trinitate*, it is clear that St. Thomas does not intend to confer upon the "liberal arts" a status which is neither that of speculative science nor mechanical art, but rather to reduce them to one of the two, and this one is quite obviously the former, speculative science. Thus the "liberal arts" are not in the position of being arts which one somehow relates to the speculative sciences, but rather in the

[27] *In Boet. de Trin.*, q. 5, a. 1, ad 3.
[28] *Summa Theol.*, I-II, q. 57, a. 3, ad 3.
[29] *Summa Theol.*, II-II, q. 47, a. 2, ad 3.

position of disciplines organically related to speculative science, to which, for a special reason, the name " art " is attributed.

In effect, in the places already cited, St. Thomas unequivocally places the liberal arts in the domain of the speculative sciences. Thus, in the article of *In Boetii de Trinitate* in which he justifies the division of the speculative sciences into natural science, mathematics and divine science, one of the objections he answers is that *logic* or rational philosophy, placed by St. Augustine under speculative science, is not included in the threefold division of speculative science into (1) natural science or physics, (2) mathematics, and (3) divine science or metaphysics. St. Thomas answers by saying that speculative science is sought for its own sake, while logic, since it is sought for the sake of speculative science, lacks that characteristic. Yet if it is not a speculative science, nevertheless it ministers to speculative science:

> . . . The speculative sciences, as is evident in the beginning of the *Metaphysics*, are of those things whose knowledge is sought for its own sake. But the things about which logic is concerned, are not sought to be known for their own sakes, but as a certain help with regard to the other sciences. And therefore logic is not contained under speculative philosophy as though a principal part thereof, but as something reduced to it, in so far as it ministers to speculation its tools, namely, syllogisms and definitions and other such which we need in the speculative sciences. Whence, according to Boethius in the *Commentary on Porphyry*, it is not so much a science as the instrument for science.[30]

Likewise in the *Summa Theologiae*, logic and its accompanying liberal arts continue to be placed in the speculative domain:

> . . . Even in speculative things there is something after the manner of a product—for example, the construction of a syllogism or a fitting discourse. . . . And therefore whatever speculative habits are ordered to such products are called, because of a certain likeness, " arts," namely, the " liberal arts." . . .
>
> Since speculative reason makes certain things, e. g., a syllogism, a proposition and other such . . . therefore, there is found a certain speculative art. . . .[31]

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[30] *In Boet. de Trin.*, q. 5, a. 1, ad 2.

[31] *Summa Theol.*, I-II, q. 57, a. 3, ad 3; II-II, q. 47, a. 2, ad 3.

Clearly, then, logic and the other liberal arts, while not attaining the name of " science "—since they are not *for their own sake*—nevertheless do find their place as preparatory to science in the speculative realm.

The above justifies *not* ranking the liberal arts as speculative " sciences," namely, because they are not for their own sake, but for the sake of those sciences. It remains to be seen why they *are* ranked as " arts." Here again, the reasons advanced by St. Thomas are quite unequivocal: they all have a " product " of some sort, which is the characteristic of the practical sciences in general, and the factive, servile or mechanical arts in particular. By virtue of this " product," the liberal arts, while not being " arts " in the strict sense of the word, nevertheless may be called so by extension. St. Thomas is careful, on every occasion, to state that they, the liberal arts, are only " arts " by extension—" according to a certain likeness." In order to be somewhat alike, yet not the same, the liberal arts, and the servile or mechanical arts, which incontestably merit the name of " art," must differ in something, which renders the latter " art " *per se*, and the former " art " only by attribution. This something is the fact that " art " in the strict sense has a product which goes out into external matter, while the " liberal art " does not have a material product but a product primarily in the mind, and one ordained to knowledge:

> Now art directs acts of making which go out into exterior matter, such as building and sawing—whence art is called " the right notion (*ratio*) of things able to be made." [32]
>
> . . . Reason acts with regard to certain things after the manner of a making, by an activity which goes out into exterior matter, which properly pertains to the arts called " mechanical." . . .[33]
>
> Now the order which the reason, upon consideration [of natural things], makes in exterior things constituted by human reason, pertains to the mechanical arts.[34]
>
> . . . [The seven liberal arts] have a certain product, which is immediately of reason itself. . . .[35]

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[32] I *Metaphys.*, l. 1, no. 34.
[33] I *Polit., Prooem.*, no. 6 (Spiazzi).
[34] I *Ethic.*, l. 1, no. 2.
[35] *In Boet. de Trin.*, q. 5, a. 1, ad 8.

. . . Those arts alone are called "liberal," which are ordained to science; while those which are ordained to some utility to be attained by the action are called "mechanical" or "servile." [36]

From the above it is clear not only that the "liberal" arts and the "mechanical" arts are distinguished on the basis of their product, the one internal, the other external, but also that it is the latter which are "art" in the strict sense—since when St. Thomas defines "art" in the strict sense, he defines the mechanical arts. In effect, even though the liberal arts are speculative and as such, more noble than the mechanical arts, which are practical, this still does not entitle "art" to be ranked among the *speculative* intellectual virtues, along with "understanding, science, wisdom." Why not? The reason is simply that the liberal arts are not arts in the true sense: the true "arts," the mechanical arts, constitute the *practical* intellectual virtue of "art," while the liberal arts belong reductively to the speculative sciences.

. . . Whatever speculative habits are ordained to "products" of reason of this sort, are called, by virtue of a certain likeness, "arts," namely, the "liberal arts."

Now those sciences which are ordered to no work of this sort, are called "sciences" absolutely. Yet it does not follow that, if the "liberal arts" be more noble, they are thereby more deserving [than the "mechanical arts"] of the notion of "art." [37]

Having related the liberal arts to the speculative sciences, as St. Thomas so clearly does, one must clarify what it is, within the speculative realm, which distinguishes the liberal arts from the sciences. As seen immediately above, one of the characteristics of the speculatives sciences is to have no "work" of the sort which the liberal arts have. Consequently, by having such a "work," or "product," namely, a syllogism, a discourse, even a melody or a chart of the heavens, the liberal arts do not qualify fully as sciences. Why should a work or product in the speculative order cause them to occupy a lower rank? Needless to say, this is not because of any defect on their part, but

[36] I *Metaphys.*, l. 3, no. 59 (Cathala-Spiazzi).
[37] *Summa Theol.*, I-II, q. 57, a. 3, ad 3.

rather because it indicates a naturally subordinate position; they are not "for their own sake," but for the sake of the speculative sciences. ". . . The speculative sciences . . . are of those things whose knowledge is sought for its own sake. But the things about which logic is concerned, are not sought to be known for their own sake, but as a certain help with regard to the other sciences." [38] The liberal arts may be seen, therefore, as not being for their *own* sake, but being for the sake of *something,* namely, the *speculative sciences,* to the attainment of which their ministerial works and helps are ordained. Thus, as not being for their own sake, i. e., for the sake of their knowledge, they do *not* qualify as "sciences"; as having a product, they *do* qualify as "arts"; not however, as "arts" in the strict sense of the mechanical or servile arts which serve the body, but rather as "arts" reducible to "science," by virtue of the purpose of their products; and which, therefore, as serving that part of man which is free, namely, the soul, entitles them to be called the "liberal arts."

> Now the other sciences either do not have *any work,* but knowledge only—as in the case of divine and natural science—whence they cannot have the name of "art," since art is called factive reason, as is stated in *Ethics* VI, or else they have a *corporeal* work —as in the case of medicine, chemistry, and the like. Whence it is that these latter cannot be called *liberal* arts, since such activities are of man with regard to that part which is not free, namely, on the part of the body.[39]

III. *What of the ambiguous position of mathematics?*

While St. Thomas enumerates the *seven* liberal arts which constitute the *trivium* of grammar, logic and rhetoric, and the *quadrivium* of arithmetic, geometry, music and astronomy,[40] nevertheless it would certainly be doing violence to his thought to assume that he considered all seven indispensable to their function as aids to the speculative sciences. In effect, in the

[38] Cf. note 30 *supra.*
[39] *In Boet. de Trin.,* q. 5, a. 1, ad 3. Italics added.
[40] Cf. note 27 *supra.*

trivium, while grammar is necessary for *all* methodical communication, and logic for *all* reasoning according to art, and therefore for the speculative sciences, rhetoric, as concerned with the contingent as contingent, particularly in human affairs, is not ordained directly to speculative science.[41] In the same respect, while arithmetic, geometry and astronomy are necessary for the highest science, divine science, to which all the other speculative sciences are ordained, music is not.[42] Since the liberal arts, then, in their specific function as ministerial to the speculative sciences, do not absolutely require the presence of rhetoric or music, it is plain that when St. Thomas is speaking of the liberal arts, he is doing so generically, and not necessarily of all seven. It is quite in line with this generic outlook, then, that St. Thomas, when not describing the different " products " of each of the liberal arts in detail, equates the *trivium* to logic and the *quadrivium* to mathematics without further differentiation.[43] With regard to the essential part of the *quadrivium*, astronomy may be reduced to mathematics (or arithmetic and geometry) as being the organic and intended application of mathematics in line with the attainment of natural and divine science. Certainly, in the light of St. Thomas' own usage, his reduction of the *trivium* to logic could be taken quite literally,

[41] " The duty of rhetoric is to deal with such matters as we deliberate upon without arts or systems to guide us, in the hearing of persons who cannot take in at a glance a complicated argument, or follow a long chain of reasoning. The subjects of our deliberation are such as seem to present us with alternative possibilities: about things that could not have been, and cannot now or in the future be other than they are, nobody who takes them to be of this nature wastes his time in deliberation." (*Rhetoric*, I, 1357a).

[42] ". . . The order of this science (namely, divine science), is that it should be learned after the natural sciences, in which many things are determined which this science uses—such as generation, corruption, motion, and the like. It should be learned likewise after mathematics (i. e., arithmetic and geometry), for this science requires, in order to know the separated substances, the knowledge of the number and order of the heavenly spheres, which is not possible without astronomy—for which the whole of mathematics is a prerequisite. But other sciences are simply for its well-being, such as are music and the moral sciences and the like " (*In Boet. de Trin.*, q. 5, a. 1, ad 9). The idea that astronomy is needed for metaphysics seems very quaint today, but see below p. 513 ff.

[43] Cf. note 17 *supra*.

in that not only is rhetoric not necessary to speculative science, but even grammar would theoretically not be indispensable in the case of a man living a solitary existence, and discovering the sciences without oral communication or reading of books. On the other hand, logic, as the art of reasoning, would be indispensable, since, as Aristotle says in the beginning of the *Metaphysics*, " the animals other than man live by appearances and memories and have but little of connected experience; but the human race lives also by art and reasonings."[44] The need for art in man's life, and specifically the art of reasoning, is equally stressed by St. Thomas:

As Aristotle says in the beginning of the *Metaphysics*, the human race lives by art and reasoning, in which the Philosopher is seen to touch upon a certain property of man wherein he differs from the rest of animals. For the other animals are led to their acts by a certain natural instinct; but man is directed in his acts by the judgment of reason.

Whence it is that for the purpose of accomplishing human acts easily and in an orderly way there are different arts. For an art seems to be nothing else than a ' sure ordination of reason whereby, through determinate means, human acts attain to a due end.'

But reason is not only able to direct the acts of the inferior parts, it is also directive of its own act. . . . If, therefore, because reason reasons concerning the act of the hand, the art of building or carpentering was discovered, by which a man is able to exercise such acts easily and in an orderly way, for the same reason there is needed an art which will direct the act of reason itself, by means of which a man may, in the act of reason itself, proceed in a way which is orderly, easy and without error.

And this art is logic, i. e., rational science. And it is not only rational because it is according to reason—which is common to every art—but also because it is concerned with the very act of reason as its proper matter. And therefore it is seen to be the art of arts, since it directs us in the act of reason, whence all the arts proceed.[45]

Now, just as experience is related to particular reason, and custom to memory in animals, so is art related to universal reason. And therefore, just as the perfect routine of life for animals is

[44] I, 980b 25.

[45] I *Post. Anal.*, l. 1, no. 1-3 (Spiazzi).

through memory, conjoined with custom arising out of training, so the perfect rule for man is through reason perfected by art or in some other fashion. Certain ones, nevertheless, are ruled by reason without art—but this is an imperfect rule.

But what if someone were to object that such an icily intellectual concept of the liberal arts, whereby one might maintain that logic alone, considered as the art of going from the known to the unknown, without benefit of external word arrangement (grammar) or of the techniques of persuasion (rhetoric), would still have the essential requisites that St. Thomas prescribes for it as a prelude to the speculative sciences, seems hardly to connote a "liberal education" in the sense of the education of a free and cultivated gentleman-citizen? An answer to this would require a closer look at the meaning of the word "liberal" in the context of St. Thomas and Aristotle. It is certain that the word is associated with "liberty" and freedom," and connotes as its subject a man who is legally a "free" man and not a slave. And since the attainment of the speculative sciences supposes a certain freedom from practical cares, leisure and a sufficiency of worldly goods are likewise presupposed to a "liberal" life. However, the end of a liberal education is not the cultivation of leisure, but rather leisure is a means to an end, and that end is the attainment of truth in the speculative sciences, and ultimately in the highest of them, divine science. Thus the meaning of *liber* or "free" which is implied in the "liberal arts," while having the basic meaning of "that which is for its own sake," in contrast to *servus,* meaning "that which is not for its own sake, but for the sake of another," is not primarily fulfilled in the purely *legal* connotation of the word, as meaning a man who, whatever his state of soul, is legally free. Rather it means "free" in the more essential sense of a man who, while being legally free, and free from demanding material cares, uses this freedom to study the *sciences* that are free, the sciences that are "for their own sake," namely, the speculative sciences, and principally the freest of them all, divine science:

[46] I *Metaphys.*, l. 1, no. 16.

That man is properly called "free" (*liber*) who is not for the sake of another, but for his own sake. For slaves (*servi*) belong to their masters, and act because of their masters, and acquire for them whatever they acquire. But free men belong to themselves, as acquiring for themselves and acting in the same way. Now only this science is for its own sake: therefore this alone is free among the sciences.

And it should be noted that this may be taken in two ways. One way is that the phrase "this alone" should indicate generically *all* speculative science. In this case it is true that this genus of sciences alone is sought for its own sake. Whence, too, those arts alone are called "liberal' which are ordained to science—while those which are ordained to some utility to be had through action are called "mechanical" or "servile."

Another way is that the phrase in question should indicate specifically that philosophy, or wisdom, which is about the highest causes—since among the highest causes there is the final cause [which by definition is that "for the sake of which" something is done, while other things are done for the sake of it].[47]

It is clear, then, from the above, that the "liberal arts," taken in their strictest sense, mean for St. Thomas the arts ordained to the speculative sciences.

Would it then be foreign to the liberal arts to include among them such disciplines as rhetoric, which is of no use for the speculative sciences, and music (including the general matter of poetics), which, unlike astronomy which is indispensable, contribute only to the well-being of the highest speculative science? It is plain that St. Thomas does not intend to exclude them, since he enumerates them among the liberal arts without any special qualification. How can one consider their inclusion in a concept, which is clearly that of St. Thomas, of the liberal arts as ordained basically to speculative knowledge? Concerning rhetoric, the art of persuasion in matters over which we deliberate, one would say that it is the art which befits a citizen who is expected to take some part in the deliberations affecting his city or state. Such a man is the free man who, while aiming at the contemplation of speculative things, is nevertheless equipped, by virtue of his intellectual capacity, to play a role

[47] I *Metaphys.*, l. 3, no. 58-59.

in the ordering of the society he lives in for the good of all—it belonging to the intellect to order.

In effect, the characteristic of being a free man, as one of the prerequisites for acquiring the liberal arts as a prelude to the liberal sciences, is clearly derived, in the mind of Aristotle and St. Thomas, primarily from *nature*—legality can confirm this freedom, but it cannot of itself constitute it where it does not already exist. This is succinctly summed up in the statement of Aristotle: ". . . Some are slaves everywhere, others nowhere." [48] By this is implied that the status of a man as free or servile cannot be genuinely constituted by law or the fortunes of war: if a man is free by nature, even in captivity he remains a free man. What is this native freedom based upon? It is based, according to both Aristotle and St. Thomas, upon *intellect*. " For," says Aristotle," that which can foresee by the exercise of mind is by nature intended to be lord and master, and that which can with its body give effect to such foresight is a subject, and by nature a slave." [49] St. Thomas elaborates upon this statement as follows:

> . . . Nature not only intends generation, but also that what is generated be preserved.
>
> And that this, indeed, comes about in men through the association of ruler and subject, he [Aristotle] shows through the fact that he is naturally a ruler and master who by his intellect is able to foresee those things which befit preservation, e. g., by causing profitable things, and repulsing harmful ones. But he who is able through the strength of his body to fulfil in work what the wise man shall have foreseen by the mind, is naturally a subject and servant.
>
> From this it is quite clear that the same thing is in the interests of the preservation of both, namely, that the former should rule and the latter be subject. For he who is able because of wisdom to provide by his mind, meanwhile would not be able to be preserved for lack of bodily strength, unless he have a servant to carry out what he has foreseen; nor could he who abounds in bodily strength be preserved, unless he be regulated by the prudence of the other.[50]

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[48] *Politics*, I, 1255a 30.

[49] *Ibid.*, 1252a 30.

[50] I *Polit.*, l. 1, no. 19. St. Thomas inquires in the *Summa Theologiae* (I, q. 96, a. 4) whether there would have been domination of one man over another even in

The universal outlook that in every unity of order there is an ordering principle and other elements that are ordered, is basic with Aristotle and St. Thomas:

> . . . In all things which form a composite whole and which are made up of parts, whether continuous or discrete, a distinction between the ruling and the subject element comes to light. Such a duality exists in living creatures, but not in them only; it originates in the constitution of the universe. . . .[51]

To whom does the ordering principle belong in a human community? It belongs to the wise man: ". . . For the wise man must not be ordered but must order, and he must not obey another, but the less wise must obey him." [52] St. Thomas not only approves these statements in the works where they first appear, but in his *Prooemium* to the *Exposition of the Metaphysics* he uses them to show first that among many sciences ordered to one end, namely, happiness, there must be one ordering, and then that this deserves to be called wisdom. Finally, in order to decide which science it is that has the characteristics of wisdom that makes it fit to rule, St. Thomas has recourse to Aristotle's statement that it is those men who excel in intellect who are the natural rulers, to conclude that it is the

the state of innocence. St. Thomas' answer is in the affirmative: there would be dominion, not of the sort which is over slaves, for the benefit of the master, but of the sort which is over freemen, for the benefit of the latter or of the common good. Why should this second kind occur at all? It occurs, says St. Thomas, because man is a social animal, living in a social unity, and in any unity made of many there is invariably a ruling factor and those who are ruled. Further, this redounds to the greater good of all, since if those better equipped by divine Providence in knowledge or in virtue rule, those less well equipped will benefit more than if obliged to shift for themselves. Clearly, then, St. Thomas, while stigmatizing slavery, or dominion for the benefit of another, as a consequence of original sin, does however envisage dominion for a subject's benefit or for the common good as a normal concomitant of man's social nature, so instituted by the Creator. It is this natural dominion which is envisaged by St. Thomas with Aristotle in the discussion of the composition of the domestic unity in the *Politics*, as the form of the discussion shows. Admittedly, however, those who hold, the facts notwithstanding, for an absolute, universal and unqualified equality among men, would term even any voluntary, non-slavish, subordination of one man to another for mutual benefit, "slavery."

[51] *Politics*, I, 1254a 25. Cf. *Summa Theol.*, I. q. 96, a. 4, c.; *In Metaphys., Prooem.*

[52] *Metaphysics*, I, 982a 15.

most *intellectual* science which will merit the name of wisdom and the role of ruler:

As the Philosopher teaches in his *Politics,* when several things are ordered to one, one of them must be regulating or ruling, and the others regulated or ruled. . . . But all the sciences and arts are ordained to one thing, namely, to the perfection of man, which is his happiness. Whence it is necessary that one of them be the ruler of all the others, which one rightly claims the name of 'wisdom'—for it is the part of the wise man to order others.

But what science this is, and with what it is concerned, may be considered if one will diligently inspect what makes one fit to rule. For just as men excelling in intellect, as the Philosopher states in the aforesaid book, are naturally the rulers and masters of others, while those men who are robust of body, but lacking in intellect, are naturally slaves, so that science should naturally be the regulator of the others which is intellectual above all. This science is the science which is concerned with the most intelligible things.[53]

Therefore it is plain that the man who by his intellect is able to tend through the speculative liberal arts to the speculative sciences, is more fundamentally free than the man who is only legally free. As free, he is a citizen in the state rather than a slave.

Furthermore, since the citizen in the perfect sense is one who takes an active part in the conduct of the city—a characteristic most true of citizens in a democracy—and since this active part implies a share in the rule, and the use of the intellectual virtue of prudence or practical wisdom, not only will the free man in the sense of the man of intellect be a citizen, but he will be one naturally fitted to share in the direction of the city.[54] It follows

[53] *In Metaphys., Prooem.*

[54] ". . . A citizen . . . in the strictest sense . . . (is one whose) special characteristic is that he shares in the administration of justice, and in offices. . . . Our definition is best adapted to the citizen of a democracy. . . . He who has the power to take part in the deliberative or judicial administration of any state is said by us to be a citizen of that state. . . . It has been well said that 'he who has never learned to obey cannot be a good commander.' The two are not the same, but the good citizen [in a democracy] ought to be capable of both; he should know how to goven like a freeman, and how to obey like a freeman—these are the virtues of a citizen. . . . Practical wisdom [i. e., prudence political or domestic] only is characteristic of the ruler: it would seem that all other virtues [i. e., temperance, fortitude, justice]

then that the man suited by nature for the speculative sciences, the man who by virtue of intellect is the genuinely free man, will also play a part in the life of the state. The bodies of such freemen, while not fitted for servile labor, are nevertheless "upright, and although useless for such (servile) services, useful for political life in the arts both of war and of peace." [55] St. Thomas explains this uprightness as follows: ". . . The bodies of freemen should be 'right,' i. e., well disposed according to nature, and useless for such servile activities (as digging and the like), as a delicate complexion requires; but nevertheless they should be useful for civil life, in which free men are active." [56] As students of St. Thomas know, since all knowledge comes through the senses, excellence of intellect requires a body conditioned thereto—not in the sense that the excellence of the intellect depends upon the body, but in the sense that nature, when intending a good intellect, shapes a body appropriate thereto. This St. Thomas underlines in the same place.[57] Consequently, then, since "man is more of a political animal than bees or any other gregarious animal," and a sign of this is that "man is the only animal which she (nature) has endowed with speech," which is "intended to set forth the expedient and inexpedient, . . . the just and unjust," [58] the free man will have the occasion to use speech in political assemblies, and therefore the study of rhetoric, which is not only useful in political science, but even occasionally masquerades as political science

must equally belong to ruler and subject" (*Politics*, III, 1275a 20; 1275b 5, 15; 1277b 10, 25).

[55] *Politics*, I, 1254b 25.

[56] I *Polit.*, l. 3, no. 70.

[57] ". . . Since the body is naturally for the sake of the soul, nature intends to form such a body as will befit the soul—and therefore it intends to give those who have the souls of freemen, the bodies of freemen, and likewise for slaves. And there is always this agreement so far as the internal dispositions are concerned, for it cannot be that anyone should have a well-disposed soul if the organs of the imagination and the other natural and sensitive powers were to be badly disposed. But in shape and external quantity and other external dispositions there can be found disagreement [i. e., a body *externally* not suited for the soul of a freeman]" (I *Polit.*, l. 3, no. 71).

[58] *Politics*, I, 1253a 5, 15.

itself,[59] will not be dissonant with a liberal education. This inclusion of *rhetoric* among the liberal arts, corresponds with the inclusion of *moral science*, whose chief part is *political* science, in the order of learning, after natural science and before divine science; ". . . What the rhetorician persuades, the political scientist judges. . . ." [60]

Would an outlook which includes *rhetoric* among the liberal arts because of the civic side of the free man's life, likewise find a place for *music* (and poetics in general), which, like rhetoric, do not have any direct bearing on the speculative sciences? St. Thomas states that music contributes to the well-being, the *melius esse*, of divine science, but is not, like astronomy, indispensable. In what way might it contribute? To answer this question it would seem normal to turn to the place where Aristotle treats *ex professo* of the role of music in liberal education in the *Politics*. The meager hints on the subject in the works of St. Thomas indicate sufficiently that he accepted this view of music.[61] In the *Politics* Aristotle not only includes music in a liberal education, even to the extent of advocating learning to play an instrument in youth in order to be a better judge later, but also assigns to it an explicit role in contributing to the highest goal of the liberal arts, the speculative sciences. It does this by affording a fitting relaxation from intellectual labor. What is said of music also applies to poetics or literary studies, which were generally considered by the Greeks as part of music, and which are grouped, as imitative arts, with music taken in the strict sense, by Aristotle.[62] Thus,

[59] ". . . Rhetoric masquerades as political science, and the professors of it as political experts. . . . (Rhetoric is useful because) we must be able to employ persuasion, just as strict reasoning can be employed, on opposite sides of a question, not in order that we may in practice employ it in both ways (for we must not make people believe what is wrong), but in order that we may see clearly what the facts are, and that, if another man argues unfairly, we on our part may be able to confute him" (*Rhetoric*, I, 1356a 25; 1355a 25).

[60] *Summa Theol.*, I-II, q. 7, a. 2, ad 3.

[61] See I *de Anima*, l. 7, nos. 95 and 97; *Summa Theol.*, II-II, q. 91 a. 2; *In Psalm.* 2, and 32; also the continuation of the commentary on the *Politics*, *loc. cit.*, and of *De Regimine* IV, c. 21 by members of the Thomistic school.

[62] *Poetics*, 1447b 15.

in addition to the useful or necessary arts, concerned with providing the things needed for sustaining life, there are those arts which accompany the pursuit of liberal things, things desirable for their own sake:

> . . . Our fathers admitted music into education, not on the ground either of its necessity or utility (for the needs of life), for it is not necessary, nor indeed useful in the same manner as reading and writing, which are useful in money-making, in the management of a household, in the acquisition of knowledge and in political life, nor like drawing, useful for a more correct judgment of the works of artists, nor again like gymnastic, which gives health and strength; for neither of these is to be gained from music. There remains, then, the use of music for *intellectual enjoyment in leisure;* which is in fact evidently the reason of its introduction, this being one of the ways in which it is thought that a freeman should pass his leisure. . . .[63]

It should be noted, of course, that the leisure here mentioned is not simply inactivity, but rather leisure from worldly business and preoccupations, allowing one to devote oneself to the active pursuit of the speculative truth. This relation of the active to the contemplative or speculative in human life, both of which aspects will concern the liberally-educated man, as noted when rhetoric was spoken of, is succinctly set forth by Aristotle in the same work:

> The whole of life is . . . divided into two parts, business and leisure, war and peace, and of actions some aim at what is necessary and useful, and some at what is honorable. . . . There must be war for the sake of peace, business for the sake of leisure, things useful and necessary for the sake of things honorable. All these points the statesman should keep in view when he frames his laws; he should consider the parts of the soul and their functions, and above all the better and the end. . . . For men must be able to engage in business and go to war, but leisure and peace are better; they must do what is necessary and indeed what is useful, but what is honorable is better. On such principles children and persons of every age which requires education should be trained.[64]

Music, and generically, poetics, while having their function

[63] *Politics,* VIII, 1338a 10. Italics added.

[64] *Politics,* VII, 1333a 80.

simply for the sake of pleasure, as a remedy for exertion generally, and also having their function in forming the passions in the moral sense, are in addition singled out by Aristotle as especially appropriate for relaxation in the leisure devoted to intellectual activity: ". . . Amusement is needed more amid serious occupations than at other times . . . for he who is hard at work has need of relaxation. . . ." [65] It is very reasonable, then, that the liberally-educated man, just as he should be, in acquiring the art of reasoning, equipped not only for speculative matters, but also, by learning rhetoric, for practical matters, likewise should be, in acquiring the mathematical arts, groomed not only in those directly related to speculative truth, such as arithmetic, geometry and astronomy, but also in those arts, namely, music and poetics in general, so admirably suited to provide necessary relaxation in that speculative activity.

Supposing then that one is prepared, in the concept of the liberal arts as introductory to the speculative sciences, which is certainly the role explicitly assigned to them by St. Thomas, to admit non-speculative rhetoric as an adjunct to the practical side of a liberal existence, and recreational music and poetics as an adjunct to speculative exertion, one is then ready to confront what is brought up by Dr. Mullaney as an objection against the whole *quadrivium*, or mathematics, as liberal *art*. In effect, since mathematics is listed by St. Thomas himself as the second of the three speculative *sciences*, which he distinguishes from the liberal arts, how can it at the same time be equated to the *quadrivium* which is part of the liberal *arts*? Needless to say, St. Thomas is not oblivious to this situation, which he presents in an objection in the *In de Trinitate* when he is speaking of the order of the speculative sciences. Thus St. Thomas lays down the following objection:

> . . . Mathematics presents itself to be learned before natural science, for the reason that boys can easily learn mathematics, but not natural science, until more advanced, as is stated in *Ethics* VI. Whence among the ancients the following order is said to have been observed in learning the sciences: namely, that first, logic

[65] *Politics*, VIII, 1337b 35.

should be learned; then, mathematics; thirdly, natural science; afterwards, moral science; and finally men would strive for divine science. Therefore mathematics should have been ordered before natural science.[66]

How does St. Thomas answer this objection? One might expect him to say that while the *liberal art* of mathematics is learned *before* natural science, the *science* of mathematics is learned *after* natural science. But he does not say it. His distinction is not between *science* and *art*, but between *science* and the *object* of science: the *object* of natural science is learned *before* that of mathematics; but the *science* itself of nature is learned *after* the science of mathematics.

. . . Although natural philosophy presents itself to be learned after mathematics, for the reason that its universal teachings require experience and time, nevertheless, natural things, since they are sensible, are naturally more known than mathematical things abstracted from sensible matter.[67]

This answer makes no distinction between an art and science of mathematics, but simply states that although one knows the *object* of natural science first, nevertheless, because of the time required, one arrives at the knowledge of the *science* of nature, its " universal teachings," only *after* mathematics, which can be grasped without experience. Is mathematics, then, learned after logic and before natural science, a science *from the start?* This is indeed what Aristotle and St. Thomas say. In effect, in the passage referred to in *Ethics* VI, Aristotle speaks about " young men (who) become geometricians and mathematicians and wise in matters like these " [68]—and to say that one is ' wise ' in a subject is to say that one has the perfection of it, has the science. That is how St. Thomas understands it, saying of the passage: ". . . They become wise in such, i. e., attaining to the perfection of these sciences." [69] When he alludes to this passage in the *In Boetii de Trinitate* in the process of assimilat-

[66] *In Boet. de Trin.*, q. 5, a. 1, obj. 10.
[67] *Ibid.*, ad 10.
[68] *Ethics*, VI, 1142a 10.
[69] VI *Ethics.*, l. 7, no. 1208.

ing the *quadrivium* of arithmetic, geometry, music and astronomy to the *mathematics* of the *Ethics*, he refers to the knowing of the young in this respect as *scire*, "to know scientifically": ". . . He [Aristotle] states in *Ethics* VI that mathematics can be known scientifically (*possunt sciri*) by boys, but not physics, which requires experience." [70]

But if the *mathematics* which is listed as following *logic* in the *trivium-quadrivium* sequence of the liberal arts is really a science and not an art at all, why then does St. Thomas take the pains to classify it likewise as an art, describing, to justify that title, the various "makings" that are engaged in, such as numbering, measuring, forming melodies, computing the courses of the stars? The correct answer to this would seem to be that the *mathematics* of the *quadrivium*, *begins* as the last of the liberal arts and *ends* as the first of the speculative sciences. In other words, the student first learns mathematics as an art, and then when he now begins to learn things as sciences, the first science he comes to know is again mathematics. Such an explanation concords with St. Thomas' description of the subjects of the *quadrivium* as arts, and his simultaneous statement, together with that of Aristotle, that boys and young men can attain to the perfection of these *sciences*—but have still to attain to *physics*:

> . . . He (Aristotle) raises a question concerning this, namely, as to why a boy is able to become a mathematician, but is not able to become a metaphysician, or a physicist, i. e., a natural scientist.
>
> The Philosopher answers this by saying that these things, namely, mathematical things, are known by abstraction from the sensible things about which experience is—and therefore, for the knowledge of such there is not required a great length of time. But natural principles, which are not abstracted from sensible things, are considered by means of experience, for which there is required a long time.
>
> As to wisdom, however, he adds that young men do not believe, i. e., do not attain with the mind, sapiential things, i. e., metaphysical things, although they speak them orally; but as to mathematical things their essence is not inevident to them, since the

[70] *In Boet. de Trin.*, q. 5, a. 1, ad 3.

notions of mathematical things are of things imaginable, while sapiential things are purely intelligible. For youths can easily grasp those things which fall under the imagination.[71]

From this outlook, then, the meaning of St. Thomas, who lists the order of learning as logic, mathematics, natural science, moral science and metaphysics, without any special distinguishing of the first two from the latter three, is that one will first learn *logic* as an *art*, i. e., how to construct a sentence, form a syllogism, compose a speech; followed by the learning of *mathematics*, first as an *art*, involving measuring, constructing and the like, and then as a *science*, i. e., by beginning to see, especially through the application of logic, *why* things are as they are. Thus, through the constructions made in connection with the right triangle of the Pythagorean theorem, and which have the character of *art*, one is able clearly to show the role of those constructions as a middle term—as known from logic—linking together the square on the hypotenuse with the squares on the other two sides. In so doing, one shows or demonstrates *why* this must be so, i. e., one induces *science*.

In keeping with this transitional nature of mathematics, involving a beginning as art and a termination as science, one would not expect St. Thomas to cite it equally with logic when speaking of the liberal arts. And, in effect, whenever St. Thomas chooses to give an example of the liberal arts, or to use one type of them as a symbol of all, it is invariably *logic* which is named, as though it were " liberal art " par excellence. Thus, in the *Exposition of the Metaphysics*, when speaking of the arts which are " introductory to the other sciences," a designation he applies in the *In Boetii de Trinitate* to the liberal arts in general, he mentions specifically *logic* as though synonymous with all such arts:

> Since therefore several arts were found with regard to utility, some of which are for the necessities of life, such as are the mechanical arts, while others are as an introduction into the other sciences, such as the logical sciences, those artificers are to be called wiser whose sciences were not discovered for utility, but for the sake of knowing, such as are the speculative sciences.[72]

[71] VI *Ethic.*, l. 7, no. 1209-10.

[72] I *Metaphys.*, l. 1, no. 32.

. . . When they had nearly everything which was necessary for life, and those things which are "for leisure," i. e., for pleasure, which consists in a certain quietude of life, and those which are necessary for erudition, as are the logical sciences, which are not sought for their own sake, but as introductory to the other arts, then first did that prudence, i. e., wisdom, begin to be sought.[73]

That logic, while being learned as an *art*, i. e., not for its own sake—which characteristic of being not for its own sake, according to St. Thomas, distinguishes it as "art" rather than "science" (although he casually *calls* it "science" above nevertheless)—need not then be learned as a *science*, may be seen from the fact that its object, as a science, unlike that of the other sciences, is not real being, but being of the mind.[74] The *teacher* of logic should know it as a science, but the *student*, who is learning it not as an end in itself, need know it, so far as introductory value to the other sciences is concerned, initially at least, only as an art. Since the object of logic as such, namely, the second intentions of the mind such as genus, species, subject, predicate and the like, have a universality comparable to that of the *being* of metaphysics,[75] it would seem under this heading to be best studied later, on the level of metaphysics.

At this point, in connection with the relation of the "liberal *arts*" to the "speculative *sciences*," and in view of the fact

[73] *Ibid.*, l. 8, no. 57.

[74] ". . . The sciences are of those things which the intellect understands. But the sciences are of things, not of species or intelligible intentions, except for rational science [i. e., logic] alone" (III *de Anima*, l. 8, no. 718). ". . . The logician considers the mode of predication, and not the existence of a thing" (VII *Metaphys.*, l. 17, no. 1658).

[75] "'Being of reason' (*ens rationis*) is said properly of those intentions which reason finds in the things considered, such as the intention of 'genus,' 'species,' and the like—which, indeed, are not found in the nature of things, but are consequent upon the consideration of reason. And such, namely, the being of reason, is properly the subject of logic. But such intelligible intentions are equated to the beings of nature, in that all the beings of nature fall under the consideration of reason. And therefore the subject of logic extends to all the things of which the being of nature is predicated. Whence he [Aristotle] concludes that the subject of logic is equated to the subject of philosophy, which is the being of nature [or real being]" (IV *Metaphys.*, l. 4, no. 574).

that St. Thomas somewhat disconcertingly not only speaks of the former as *arts* introductory to the *sciences*, but also as *sciences* introductory to the *arts*,[76] it is perhaps appropriate to re-state the basic differences between "art" and "science." Clearly, in the present context, St. Thomas does not intend to separate the liberal arts absolutely from the speculative sciences, since he refers to them as "speculative habits," and does not distinguish them from "science" absolutely, but from "the *other* sciences" or "*those* sciences which have no such work." In effect, the distinction is made between the liberal arts and the speculative sciences, not on the basis that the former are arts which cannot be called sciences, but rather on the basis that the latter are sciences which cannot be called arts. The speculative sciences are those which because "they are ordained to no work . . . are called 'sciences' without qualification." They are not arts because these sciences which "do not have a work, but knowledge only . . . are not able to have the name of 'art.'"[77] On the other hand, it is not said of the liberal arts that they are *not* sciences, but rather that they *are* arts—in a manner of speaking. Consequently it is not surprising to see them referred to either as arts or sciences. At the same time it is extremely rare for the word "art" to be used of the sciences, and particularly of the speculative sciences, and when so used it is obviously intended to contrast, not with "science," but with "that which is not art," namely, the state of the reason before attaining to universal knowledge, as in the statement, "Now art arises when from many notions gained by experience one universal judgment about a class of objects is produced."[78] Returning to the liberal arts, it is plain that they do not differ from the

[76] For example, "whatever speculative habits are ordained to such works (of reason) are called by a certain similitude, 'arts,' namely, the 'liberal arts' . . . but those sciences which are ordained to no work of this sort, are called 'sciences' without qualification, but not 'arts'" (*Summa Theol.*, I-II, q. 57, a. 3, ad 3), while at the same time, "the logical *sciences* . . . are not sought for their own sake, but as introductory to the other *arts*" (I *Metaphys.*, l. 3, no. 57).

[77] Cf. *Summa Theol.*, I-II, q. 57, a. 3, ad 3; *In Boet. de Trin.*, q. 5, a. 1, ad 3.

[78] *Metaphysics*, I, 981a 5.

speculative sciences in the respect that the latter have knowledge and the former do not, but rather in the respect that while the liberal arts " not only have knowledge, but a certain work," the speculative sciences " have knowledge only." [79] This brings one to the fundamental distinction between art and science deriving from the distinction between the *practical* and the *speculative,* which are distinguished by their *end.* Both the latter indeed have knowledge, but in the case of the speculative, it is knowledge *for its own sake,* whereas in the case of the practical, the knowledge is *not* for itself but for the sake of something else, of some product.[80] This characteristic of being ' not for itself,' consequently, will be the basis for discerning the role of the liberal arts with respect to the speculative sciences, namely, that the former, while being ordained to the speculative, are *not* for their own sake, but for the sake of the speculative sciences, to which they minister. This does not mean, as we have already shown,[81] that the liberal arts are practical, strictly speaking. Only the servile arts (arts in the strict sense) are practical arts. The liberal arts are arts only in a loose sense, and hence are practical only in a loose sense, i. e., in comparison with the speculative sciences which have no artistic aspect. Thus, simply speaking, the liberal arts are speculative disciplines, but relatively, in comparison with natural science, metaphysics, and theology, they have an instrumental character and are valued not for their own sake but for the sake of the pure sciences.

Thus, with regard to *logic,* since it is not sought for its own sake, but as introductory to the other sciences, it will have the character of " art " even should one attain the very *science* of

[79] Cf. *In Boet. de Trin.,* q. 5, a. 1, ad 3.

[80] " Theoretic, i. e., speculative (knowledge) differs from practical according to end. For the end of the speculative is truth, as this is what it intends, namely, the knowledge of the truth. But the end of the practical is a work, for even though ' practical,' i. e., the operative, persons intend to know the truth, as to how it is found in certain things, nevertheless they do not seek it as the ultimate end. For they do not consider the cause of the truth according to itself and for the sake of itself, but while ordering it to the end of an operation, or applying it to some determined particular and some determined time " (II *Metaphys.,* l. 2, no. 290).

[81] See note 76 above.

logic, i. e., be able to show the manner of proceeding from principles to conclusions with necessary and demonstrative reasons.[82] Because logic is essentially not sought for itself and its very object, or subject-matter, *ens rationis* or being of the mind, is not the object of contemplation, it will therefore be taught as intended only when taught with the practical consideration of its use in the other sciences always uppermost. While the " reason why " is the end of the speculative sciences,[83] such knowledge is not indispensable to the concept of " art," since the knowledge is aimed at the work, and therefore, provided the principles are correct, one need not know the " reason why " in order to perfect the work: it suffices to know " that it is so " from experience of the art.[84] The perfection of the art, of course, implying the ability to meet cases not already provided for in what one has learned, involves knowing the causes.[85] In the meantime it is possible in logic for one to acquire certain general rules—such as the rules of the syllogism —which enable one to analyse reasoning and show *that* it is true or false by, for example, some comparison, even though one does not know as yet *why* such rules should be effective.[86]

[82] Thus dialectics as a science or as *docens* sets forth " the mode by which one may proceed through them [i. e., the intentions of reason] to showing conclusions in a probable manner in each of the sciences, and does this demonstratively—and in this respect is a science "; likewise sophistics " as it is *docens* transmits through necessary and demonstrative arguments the manner of apparent reasoning " (IV *Metaphys.*, l. 4, no. 576).

[83] ". . . The knowledge of the causes of some genus is the end to which the consideration of science attains " (*In Metaphys., Prooem*).

[84] ". . . The architects of things which are made, know the causes. But those . . . who perform the artificial operations . . . know 'that it is so,' but do not know the causes. . . . Those with experience ['that it is so'] are not able to teach, because they are not able to lead to science, since they do not know the cause " (I *Metaphys.*, l. 1, no. 28-29).

[85] " Now although someone may be able to act well without universal science, with regard to some particular, nevertheless, he who wishes to be an artisan should tend to universal knowledge. . . . For in all things it is necessary that one not only know the singular cases, but also that one have the science of that which is common—since perchance things will occur which are included under the common science, but not under the knowledge of individual happenings " (X *Ethic.*, l. 15, no. 2162-63).

[86] Thus, someone knowing the rules of the syllogism could analyse the following

But supposing that *logic* may be termed an "art," setting down as it does a "certain and sure ordination, whereby, through determinate means," one is able to construct a grammatical sentence, set down reasoning in the form of a syllogism, write a composition, the question remains about *mathematics* as an "art." Here, too, one starts by learning certain determinate means whereby one is able to meet the problems of multiplication and division, whereby one learns techniques of measuring surfaces and solids. It is here also that, as the *art* of mathematics begins to turn into the *science* of mathematics, one is first able to invoke the *method* of the sciences learned in logic, for the learning of the sciences themselves. Thus, knowing how it is a "middle term" which allows a "predicate" to be predicated of some "subject" to which it is not seen immediately to belong, one sees the "middle term" exemplified in the constructions of geometry which constitute the "missing link" in the proving of theorems—as in the case of the construction which is the middle term through which the squares on the sides of the right triangle are identified with the square

statement, "Harry Watkins must be very well off, since he belongs to the Athletic Club—to which everybody with money belongs," as an invalid syllogism in the second Figure. (*Major*: "Everbody with money belongs to the Athletic Club"; *Minor*: "Harry Watkins belongs to the Athletic Club"; *Conclusion*: "Therefore Harry Watkins is one of those with money.") Should one not be able to demonstrate by a deeper knowledge of logic *why* this must be so, one could set the fallacy in relief by showing its identity of form with some obviously false *example*, such as the encounter between Alice and the Pigeon:

"I—I'm a little girl," said Alice (whose neck had now stretched above the treetops) rather doubtfully, as she remembered the number of changes she had gone through that day.

"A likely story indeed!" said the Pigeon, in a tone of the deepest contempt. "I've seen a good many little girls in my time, but never *one* with such a neck as that! No, no! You're a serpent; and there's no use denying it. I suppose you'll be telling me next that you never tasted an egg!"

"I *have* tasted eggs, certainly," said Alice, who was a very truthful child; "but little girls eat eggs quite as much as serpents do, you know."

"I don't believe it," said the Pigeon; "but if they do, then they're a kind of serpent: that's all I can say."

This classic exchange from *Alice's Adventures in Wonderland* could be set down as a syllogism of the same invalid form as the example above: *Major*: "(All) serpents eat eggs"; *Minor*: "Alice eats eggs"; *Conclusion*: "Therefore Alice is a serpent."

on the hypotenuse in the Pythagorean theorem. By the application of logic to mathematics one is able to begin to grasp in practice the technique through which proof takes place, while still dealing with relatively simple and uncomplicated elements.

Even when mathematics passes, in the learner's mind, from the state of an " art " consisting mostly in techniques for getting things done, to the state of incipient " science," where one begins to see the necessary enchainment between things, and the relation of cause to effect, does it still bear the characteristic of an " art "?

As has been seen, the characteristic of " art " in the liberal arts arises from two facts: (1) they make a product interior to the mind; (2) they are not for their own sake, but are ordained by means of what they produce to aid the speculative sciences.

As regards the product of the mathematical arts, this consists in " counting and measuring," as we have already seen. But this counting and measuring need not be understood only in the sense of the performance of calculations as in elementary mathematics. St. Thomas tells us that it is peculiar to the mathematical sciences that although they demonstrate concerning real subjects, nevertheless, they define these subjects in an abstract mode by means of *constructive* definitions which manifest the essences of the subject through the work of the imagination guided by the intelligence.[87] This mode of definition is peculiar to mathematics and helps to account for its highly deductive character, its great unity as a system, and its special mode of verification by resolution to the imagination.[88] This

[87] " For geometricians discover the truth which they seek by dividing lines and surfaces. But division reduces that which was in potency to act. For the parts of a continuum are in potency in the whole previous to division. For if they were all already divided as the discovering of truth requires, the conclusions sought would already be manifest. But since in the first drawing of the figures these divisions are only in potency, the answer is not immediately manifest . . ." (IX *Metaphys.*, l. 10, 1888).

[88] ". . . It is evident that mathematical consideration is more easy and certain than either the natural or the theological [i. e., that of divine science or metaphysics], and much more so than that of the other sciences, the operative sciences—and therefore it above all is said to proceed *disciplinabiliter* [i. e., according to the mode

constructive character is not restricted merely to the elementary phase of mathematics but extends to its entire scope. Indeed it is more prominent in the most advanced branches of mathematics where the entities dealt with are known wholly through mathematical operations, which are constructions in St. Thomas' sense. It is just this constructive character of higher mathematics which has made plausible the erroneous views of Russell and the logicists who try to prove that mathematics is nothing but logic.[89]

As regards the ordering of mathematics to speculation, even though mathematics be itself one of the three speculative sciences, to the extent that it is for the sake of something else, it retains the character of art. And mathematics is *not* for its own sake in the rising motion of the sciences toward divine science: its ministerial character may be seen from the fact that its *speculative* aspects are not considered for themselves, but are ordained to the *concrete* and to *material* being in astronomy for the purpose of estimating the heavenly motions in the progress towards the first cause. Mathematics terminates, then, in this sequence, not as being known for itself, but as serving as a means towards the attainment of divine science or metaphysics. (One might say the same of natural science, which terminates at the threshold of spiritual substances with the rational soul,[90] but there is already a certain continuity

of scientific knowledge, from *discere*, 'to receive science from someone'] (*In Boet. de Trin.*, q. 5, a. 1, ad 2 q.).

"In mathematical things, therefore, it is necessary that definitive judgment (*cognitionem secundum judicium*) on a thing terminate in the imagination, not in the senses, for mathematical judgment transcends the apprehension of sense. Whence there sometimes is not the same judgment with respect to a mathematical line as with respect to a sensible line—as in the respect that a straight line touches a sphere only according to a point, which befits a separated straight line, but not a straight line in matter (*Ibid.*, a. 2, resp.).

[89] See Bertrand Russell, *Introduction to Mathematical Philosophy* (London, 1919). For the subsequent criticisms of this thesis see Max Black, *The Nature of Mathematics* (New York: Humanities Press, 1950).

[90] "The term of the consideration of natural science is concerning the forms which are in some sort separated, but nevertheless have their being in matter. And such forms are the rational souls. . . . But how the forms exist which are totally separated from matter, and what they are, or even how *this* form, i. e., the

between it and metaphysics or divine science, in that they both treat of real being, while the being of mathematics is abstracted —being able to be defined, though not to exist, apart from sensible matter— [91] and one arrives at the separated substances of metaphysics through the material substances of physics.[92] Consequently St. Thomas in his division of the sciences according to the orders reason considers, includes metaphysics under natural philosophy) .[93]

Furthermore natural philosophy, since it treats of objects noble in themselves, namely, of the universe and of the human soul, has a certain nobility from its object, and hence deserves to be studied " for its own sake," although only secondarily in comparison with metaphysics.[94] But mathematics treats of

rational soul, exists accordingly as it is separable and able to exist without the body, and what it is according to its separable essence, these things it pertains to the first philosopher to determine " (II *Physic.*, l. 4, no. 375, Angeli-Protta).

[91] ". . . Of those things which depend upon sensible matter according to being, but not according to definition, is mathematics . . ." (II *Physic.*, l. 1, no. 3).

[92] ". . . The knowledge of these sensible substances is the way to the knowledge of the aforesaid separated substances " (VII *Metaphys.*, l. 17, no. 1648).

[93] " Now to natural philosophy it pertains to consider the order of things which human reason considers but does not make—including under natural philosophy also metaphysics " (I *Ethic.*, l. 1, no. 2).

[94] " Therefore all speculative science is good and honorable. But also in speculative science degrees of goodness and honor are found. For every science is praised because of its act, but every act is praised for one of two reasons: from its object and from its quality or mode. For example, to build a house is better than to make a bed, because the object of the act of building is better than a bed. But in the same [act] with regard to the same object, the quality [of the act] produces certain grades; since in so far as the mode of building is better, so is the building better. Thus, therefore if science or its act is considered with respect to its object, it is evident that that science is nobler which is more certain. Thus, therefore, one science is said to be more noble than another, either because it is of better and more honorable things, or because it is more certain. Now this is different in different sciences, since some are more certain than others, and nevertheless they are of things less honorable, but others are of things more honorable and good, and nevertheless they are less certain. The reason for this, as the Philosopher says in *De Animalibus XI*, is that we desire more to know a little of the highest and better things, even if we only know them dialectically and with probability, than to know much and with certitude of things less noble. For the former have nobility of themselves and have it substantially, but the latter from their mode and quality. But this science, namely of the soul, has both; because it is certain, for everyone experiences in himself that he has a soul and that he lives by the soul, and also because it is

an object which has nothing of nobility. Quantity is only an accident, and that accident which is most material in character, and mathematics does not even treat of it according to its real existence, but only in an abstract and imaginary fashion. Such nobility as mathematics has comes not from its object, but from its mode of great certainty and it is precisely this mode which characterizes it as a liberal art, since its certitude is based on the simplicity of its elements and its deductive character, and these are linked with its constructive mode of definition.[95]

In conclusion, then, when speaking of the relationship of

nobler, since the soul is the most noble among inferior creatures. . . . [Aristotle says] that the knowledge of the soul seems to be of much profit for all the truth which is treated in other sciences. For it gives notable opportunities to all parts of philosophy. Since if we consider first philosophy [metaphysics] we are not able to come to a knowledge of divine and highest causes, except through what we discover from the power of the possible intellect. For if the nature of the possible intellect were unknown to us, we would not be able to know the order of separated substances as the Commentator says on *Metaphysics XI*. But if we consider moral science, we cannot arrive at moral science perfectly, unless we know the powers of the soul. And thence it is that the Philosopher in the *Ethics* attributes each of the virtues to different powers of the soul. For natural science moreover it is useful, because a great part of natural things have souls, and the soul is the source and principle of all motion in animated things" (I *de Anima*, l. 1, no. 4-7). Cf. note 22. Of course for St. Thomas the treatise *De Anima* is a part of natural science, as is clear from this same *lectio*.

[95] "Now the process of mathematics is more certain than the process of divine science [i. e., metaphysics], since those things about which divine science is, are more remote from sensible things, from which latter our knowledge takes its rise—both with regard to the separated substances, to the knowledge of which we are insufficiently led by those things derived from the senses, and with regard to those things which are common to all beings, which are most universal, and thus most remote from the particulars which fall under the senses.

"But mathematical things fall under the senses, and are subject to the imagination, as in the case of line, figure, and such. And therefore the human intellect, deriving data from phantasms, more easily receives knowledge of them, and with greater certitude, than of any intelligence [i. e., separated substance], or even of the quiddity of substance, or of potency and act and such.

"And thus it is evident that mathematical consideration is more easy and certain than either the natural or the theological [i. e., that of divine science or metaphysics], and much more so than that of the other sciences, the operative sciences—and therefore it above all is said to proceed *disciplinabiliter* [i. e., according to the mode of scientific knowledge, from *discere*, 'to receive science from someone'] (*In Boet. de Trin.*, q. 5, a. 1, ad 2 q.).

logic and *mathematics,* the headings under which St. Thomas summarizes the *trivium* and the *quadrivium,* it appears safe to say that even should these two disciplines attain the status of sciences in the learner's mind, they would still be classified by St. Thomas under the category of " liberal arts "—since this category is attributed to them, not because they are *not* sciences, but because they *are* ordained to something other than themselves, which is the characteristic of " art."

At the same time it is important to note that the sequence of studies—logic, mathematics, natural science, moral science and metaphysics—laid down so clearly by St. Thomas, is in no way dependent upon one's historical outlook upon the origin, number, and function of the medieval " liberal arts." Had there been no *trivium* or *quadrivium,* St. Thomas' reasons for the sequence of studies would still be the same, since he derives it, not from the " liberal arts " of his day, but from his consideration of the order of studies in Aristotle—to which order he shows the conformity of the " liberal arts " system of his time. Thus he is unequivocal that one must begins one's acquisition of science with *logic,* which shows the method of science, as stated by Aristotle in *Metaphysics* II; then, since one cannot learn natural science immediately, because one has to wait for an accumulation of experience, one will begin the study of *mathematics,* indispensable for practical purposes, and likewise indispensable for a later ascent towards divine science, and which, since it does not require experience, one can begin to learn immediately. This latter decision is in line with Aristotle's investigation of the requisites for the acquisition of science in *Ethics* VI, and it is precisely there that St. Thomas chooses to spell out the order of learning in clearest detail, at Aristotle's words, " Indeed, one might ask this question too, why a boy may become a mathematician, but not a philosopher or a physicist." [96] The answer is, of course, that it is " because the objects of mathematics exist by *abstraction,* while the first principles of these other subjects come by *experience.*" Since

[96] *Ethics,* VI, 1142a 15; St. Thomas, l. 7, no. 1208 ff.

the knowledge of metaphysics is derived from that of physics, the knowledge of separated substances from that of sensible substances, *natural science* will precede *divine science*. But what of *moral science*? Like natural science, it too requires experience.[97] But is requires something more than experience also, namely, control over the passions.[98] Thus moral science requires the time necessary for natural science and more besides. Why then is it not placed absolutely last, after metaphysics? The reason for this is simple: moral science, as perfected in prudence, both personal and communal, is ordained to divine science or wisdom, and not conversely.[99] Consequently, moral science will follow natural science and precede *metaphysics*: practical wisdom is subordinated to speculative wisdom.

The presence of *moral science* in the sequence of disciplines which are either ordered to, or actually are, *speculative science*

[97] ". . . A youth does not have knowledge of those things which pertain to moral science, which are above all known through experience. Now a youth is inexperienced in the activities of human life because of the shortness of time—and nevertheless the arguments of moral science proceed from those things which pertain to the acts of human life, and also are of those acts. For example, if it should be said that the liberal man keeps less for himself, and gives more to others, this the youth, because of inexperience, might perchance not judge to be true—and likewise in other civic things. Whence it is evident that a youth is not a fitting hearer of political science" (I *Ethic.*, l. 3, no. 38).

[98] "The end of this science is not knowledge alone. . . . Rather, the end of this science is human action, as it is of all the practical sciences. But those do not arrive at virtuous actions who follow their passions. And thus there is no difference with respect to this whether the hearer of this science be a youth in age, or a youth in behavior. For just as a youth in age fails from the end of this science which is knowledge, so he who is a youth in behavior fails from the end which is action . . ." (*Ibid.*, no. 40).

[99] "Since prudence is of human things, while wisdom is of the highest cause, 'it is impossible that prudence be a greater virtue than wisdom unless,' as it is stated, 'man were the greatest thing in the world' [referring to Aristotle's statement, '. . . It would be strange to think that the art of politics, or practical wisdom, is the best knowledge, since man is not the best thing in the world' (*Ethics.*, VI, 1141a 20)]. . . . Prudence commands concerning those things which are ordered to wisdom, namely, as to how men may arrive at wisdom, whence in this respect prudence, or political science, is the handmaid of wisdom: for it introduces to it, preparing the way for it, as the doorkeeper to the king" (*Summa Theol.*, I-II, q. 66, a. 5, ad 1).

raises the question of the nature of the education set down by St. Thomas in his " order of learning." Is it purely speculative, or is it a mixture of the speculative and the practical? This question already arose from the presence of the non-speculative *rhetoric* in the *trivium*. At that time it was noted that the free or liberal man of Aristotle and St. Thomas, since he was so basically by intellectual disposition, and since it was intellect and its accompanying power to order which made man naturally able to direct and provide, was naturally fitted to play a directive role in that unity of order for the common good which is society. The inclusion of *moral science* in the " order of learning " corresponds to the need for the liberally-educated man to be able to play his proper part in the striving for the common good: he must not only have the *practice* of virtue but he must also have the *science* of virtue, or moral science, in order to be able to recognize and foster civic or legislative steps towards virtue, in which the common good of the community lies.[100]

This of course implies that the *moral science* listed in the " order of learning " is not solely for the personal fostering of virtue in oneself, but also for the sake of giving one the " reason why " of virtue so that one may promote it intelligently in connection with the common good. In effect, the actual *practice* of virtue is already presupposed as being the result of habits inculcated from childhood. St. Thomas does not list moral science as intended to free the mind from the passions, but as already *presupposing* this freedom, attained by the actual practice of temperance, fortitude and justice.[101] Thus the moral

[100] ". . . He [Aristotle] shows towards what the city is ordained: for it was first made for the sake of living, in order that, namely, men might sufficiently find wherewith they might live—but from its existence there came about that men not only should live, but live well, in so far as through the laws of the city the life of man is ordained to the virtues " (I *Polit.*, l. 1, no. 31).

[101] " He [Aristotle] shows how the hearer of such things [i. e., of moral science] must be disposed. And he states that since in moral things we must begin from those things which are more known as to us, i. e., from certain effects which have been considered in connection with human actions, it is necessary that he who wishes to be an adequate hearer of moral science, be brought up and exercised in

virtues *precede* the intellectual virtues, so far as the practice of them is concerned.[102] What the liberally-educated man who is to play his role as a citizen, that is, as one who takes a part in the direction of the city, needs, is that intellectual virtue which is directive of the moral virtues, namely, prudence, not only personal, but domestic and civil, and this is what he is now intended to acquire in *moral science*.[103]

the customs of human life, i. e., concerning external goods and just things—that is, of the works of the virtues, and universally of all civic things. . . . For it is necessary to take as a principle in moral things *that it is thus*. Which indeed is received from experience and custom—for example, that concupiscences are overcome by abstinence" (I *Ethic.*, l. 4, no. 53).

[102] Aristotle, in the *Ethics*, first treats of the moral virtues, then the intellectual virtues, "and the reason for the order is that the moral virtues are more known [to us] and through them we are disposed for the intellectual" (II *Ethic.*, l. 1, no. 245).

[103] ". . . He [Aristotle] states that there is a certain rule according to which someone rules, not as a master over slaves, but as over free men, and his equals. And this is civil [democratic] rule, according to which now these, now others are raised to rule. . . . It is necessary that he who is a good citizen absolutely, know how to rule and how to be subject to rule. . . . The virtue of the ruler, properly speaking, is *prudence*, which is directive and governing. But the other moral virtues, whose notion consists in being governed and subjected, are common to subjects and rulers . . ." (III *Polit.*, l. 3, nos. 374, 376). ". . . If anyone should wish by his care to make men better, whether many or few, he should endeavor to arrive at the universal science of those things by which one is made good, i. e., to be a lawmaker, and know the art by which laws are made well—since through laws we are made good . . ." (X *Ethic.*, l. 15, no. 2163). ". . . Prudence and politics are the same habit according to substance, since both are the right reason of things which may be done with respect to human goods or evils; but they differ according to their reason for being. For prudence [in the restricted sense] is the right reason of things which may be done concerning the goods or evils of one man, i. e., of oneself. But politics is about the goods and evils of the whole civic multitude. . . . All [the different types of prudence in the extended sense, such as personal prudence, domestic prudence, political prudence] are species of *prudence* in so far as they do not consist in reason alone, but have something in the appetite. For to the extent that they are in reason alone, they are called certain practical *sciences*, namely, 'ethics,' 'economics,' and 'politics.' One should also consider that since the whole is more primary than the part, and consequently the city than the household, and the household than one man, it is necessary that political prudence be more primary than economic, and the latter than that which is directive of oneself. Whence lawgiving is more primary among the parts of politics and absolutely the most important in human affairs" (*Ibid.*, VI, l. 7, nos. 1196, 1200-01). That the liberally-educated man in his *moral science*—which is useless unless accompanied by will and action, making it *prudence*—should aim at that

From all of this one may see the position of the fivefold "order of learning" in the educational concept of St. Thomas. Starting from the very beginning of things, and following the order of nature, there is first the care of the *body*, in children, before the *soul*—although simultaneously in the supernatural order both body and soul must be reborn in baptism. Subsequently, as the soul awakes, the *moral* virtues, dealing with sense appetites, are fostered by training, awaiting the awakening of the *intellectual* virtues. With regard to the intellectual virtues, supposed as resting upon good moral practice, one begins first with training the mind itself to the art of thinking or *logic*, as a prelude to the mastery of all the other arts and sciences "ordered to one thing, namely, the perfection of man, which is his happiness." Of these, the first in order, *mathematics*, is unquestionably practical as well as speculative. The same may be said of *natural science* since, although it leads naturally to metaphysics, nevertheless all practical inventions are also derived from it. Among the intellectual virtues there is also that one which is specifically practical, namely, prudence, obtained by the combination of the knowledge of *moral science* with a right will and the remainder of the moral virtues, and which equips a man, now mature, to direct intelligently his own life and also that of the community. Finally, this sequence is kept in its true direction by the reservation of the ultimate position to *divine science* or metaphysics, the "philosophical theology," subordinated only to the "theology of Sacred Scripture," [104] ordered to man's ultimate end, the knowledge of God.

This basic sequence of studies is plainly set down by St. Thomas as following the very nature of things for man. It tends to a speculative end, because such is the nature of man:

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most honorable aspect of it, political science, which is proper to *every* citizen in a democracy, since all are called upon to share in the rule, is evident from the fact that the young man being considered by Aristotle and St. Thomas with regard to moral *science* (following upon previous moral *practice*) is referred to as a "hearer of political science" (cf. note 97 *supra*).

[104] Cf. *In Boet. de Trin.*, q. 5, a. 4, c. fin.

As the Philosopher says in *Ethics* X, the final happiness of man consists in the best operation of man, which is of the supreme power, namely, the intellect, with respect to the best intelligible thing.[105]

Perhaps all cannot attain to such speculative knowledge, but everyone can begin, and reap benefits from logical training for reading, writing, thinking, and expression; then if one can learn anything, one can learn some practical mathematics; subsequently, if one cannot advance in natural science speculatively, one can always convert the movement from speculative *science* to practical *art* at any point along the road. Finally, for those who do not arrive at acquired prudence and wisdom, there are always infused prudence and wisdom which can more than compensate—but this does not excuse those who can develop the acquired habits also, from trying. At the same time, one cannot help but note that in this time of urgency when it is scientific method, natural science, mathematics, social science which are being recommended as most necessary and most timely, these are precisely what an education would have *that followed St. Thomas.*

IV *The doctrine of St. Thomas and the divergent views.*

We are now in a better position to compare this very rich and beautifully articulated theory of the liberal arts found in the works of St. Thomas, with current theories.

The chief preoccupation of current educators favorable to the liberal arts seems to be to introduce the "*humanities,*" understood as *literature, philosophy,* and *art,* grouped around *history,* as the core of the liberal arts curriculum—specifically as replacing the *quadrivium* of tradition. To these some would add metaphysics and theology, provided that the latter be taught in a "humanistic fashion."[106] As Dr. Mullaney puts it, there is a widespread "feeling among administrators," that "mathematics and science [which he identifies with the traditional

[105] *In Librum de Causis, Prooem,* prin.

[106] See Gustave Weigel, S. J., "The Meaning of Sacred Doctrine in the College," in Gerard S. Sloyan, *Shaping the Christian Message* (New York: Macmillan, 1958).

quadrivium] are science and not art," along with the simultaneous feeling that the desired and needed liberal art subjects are " history and literature; or, if they are particularly enlightened, they will even say ' history, literature and philosophy '; or they may even be more accurate and say ' cultural studies,' or ' the humanities.' " This " feeling anticipated intellectual analysis, as it often does." [107] In effect, it appears that it is the practical need for the inclusion of more of the " humanities " or " cultural studies," in the face of a widespread educational indifference to liberal education, which is causing some Thomists to abandon the traditional theory of the liberal arts, in hopes of discovering a more persuasive approach.

The following lines will be devoted to, first, the cited author's objections against St. Thomas' doctrine; then, his realignment thereof; lastly, the position of the " humanities."

A. *Objections against St. Thomas' doctrine on the liberal arts.*

The current objections against the liberal arts, enumerated by St. Thomas in the *In Boetii de Trinitate* (q. 5, a. 1) as logic, comprising the *trivium* of grammar, logic and rhetoric; [108] and mathematics, comprising the *quadrivium* of arithmetic, geometry, music and astronomy, may be summed up succinctly in the proposition: These liberal arts, particularly the *quadrivium*, are *never* arts and *sometimes* sciences.

As Dr. Mullaney expresses it, they are not arts, because " art is productive knowledge, a making which passes into external matter, as in the useful or fine arts " (p. 482), and this is not true of any of the " liberal arts." Some of them, however, are

[107] J. V. Mullaney, *op. cit.*, pp. 503-4.

[108] These three are described by St. Thomas (cf. ad 3) as " forming a *construction, syllogisms* and *discourse*." The first, implying the process of grammatical construction, plainly corresponds to our idea of ' grammar '; the last, implying the art of composing a speech, writing a composition, quite easily corresponds to a contemporary ' composition and rhetoric ' course; the second, centering on the syllogism, would correspond to a ' logic ' course embracing at least formal logic. St. Thomas would certainly consider such a course as aiming ultimately at the whole *Organon* and thereby comprising demonstration, dialectics, rhetoric and poetics. Such a concept of logic, with grammar understood as a necessary prerequisite, would thus be identical with the whole *trivium*.

science. Thus, in the *quadrivium*, " two of the arts (arithmetic and geometry) are instances of (the science of) mathematics, and the remaining two (astronomy and music) are instances of physical science " (p. 483). Because of this, " there is simply no subject matter proper to the *quadrivium* " (*ibid.*). The same is true of grammar in the *trivium*: " As a liberal art it has no proper subject matter " and " usually has been interpreted to mean the study of literature . . . one of the fine arts " (*ibid.*). Later on, grammar " as the study of language, the art of second impositions " is given a " modest " status as a liberal art. " But so understood, grammar is not a liberal art suited to collegiate or university study [as ' liberal arts ' are here being considered]: it belongs where it used to be—in the grammar school " (p. 494).

Furthermore, not only are these " liberal arts " not *arts*, they are also not *liberal*. " Liberal knowledge is theoretical knowledge, knowledge sought for its own sake . . . but these logical and mathematical arts, called liberal, are sought for the sake, not of themselves, but of the theoretical knowledge to which they lead; hence the names *trivium* and *quadrivium*. They are propaedeutic, related as means to a further intellectual end " (p. 482). What is the conclusion of these objections, to the effect that the " liberal arts " are neither arts nor liberal, while some of them already are the subject-matter of sciences? " The upshot of the present consideration is that, so far as proper content or subject matter is concerned, there are at most two liberal arts, namely, rhetoric and logic. But the two problems urged above [i. e., of " arts " which do not regard the transformation of external matter; of something " liberal " which is not sought for its own sake] can be cited even against rhetoric and logic " (p. 484).

Obviously this criticism of St. Thomas' classification of the liberal arts reduces a handsome edifice to a pile of rubble. From this Dr. Mullaney and others hope to erect a new building planned on a very different principle.

But is the criticism valid? Is it true that the liberal arts in their traditional mode, are not liberal, not arts, and in most

cases are without any proper subject matter (since this subject matter already is the property of some science or fine art)?

First of all, what of the objection that they are not arts? St. Thomas agrees with this: they are not—but only have a certain likeness to art (*dicuntur per quamdam similitudinem artes*).[109] Why so? Because they have something after the manner of a product (*aliquid per modum cujusdam operis*).[110] Thus they are arts, if one wishes, only after a fashion. What of the objection that they are not liberal, not for their own sake? This likewise is true: St. Thomas agrees that they are propaedeutic, introductory to the other arts (*introductoriae ad alias artes*).[111] They are only *called* liberal, as ordered to the most liberal sciences, or to the liberal or speculative sciences in general.[112] Finally, what of the objection that certain of them have no proper subject-matter, since their subject-matter is already that of one of the *sciences*? St. Thomas would agree with this, also, namely, that some of the liberal *arts* may be *sciences* too. Thus he speaks of the logical sciences (*scientiae logicales*)[113] which are introductory to the other arts, meaning universal knowledge in general. With reference to mathematics, as related to the *quadrivium*, boys can become scientifically knowing in these matters (*mathematica potest sciri a pueris*),[114] can even attain to the perfection of mathematical science, mathe-

[109] *Summa Theol.*, I-II, q. 57, a. 3, ad 3; cf. note 28; 31; 37; 71.

[110] *Ibid.*

[111] I *Metaphys.*, l. 3, no. 57; cf. note 36; 47; 73; 76.

[112] ". . . Only this science (i.e., divine science or metaphysics) is for its own sake: therefore this alone is free (*libera*) among the sciences. . . . This may be taken in two ways. One way is that the phrase 'this alone' should indicate generically all speculative science. In this case it is true that this genus of sciences alone is sought for its own sake. Whence, too, those arts alone are called 'liberal' which are ordained to science. . . . Another way is that the phrase in question should indicate specifically that philosophy, or wisdom, which is about the highest causes (i.e., divine science or metaphysics) . . ." (I *Metaphys.*, l. 3, no. 58-9. Cf. note 47).

[113] I *Metaphys.*, l. 3, no. 57; cf. note 111; also note 82.

[114] *In Boet. de Trin.*, q. 5, a. 1, ad 3. The substance of St. Thomas' outlook on the liberal arts may be gleaned from this article of the *In Boetii de Trinitate*, and from *Summa Theol.*, I-II, q. 57, a. 3, ad 3, and II-II, q. 47, a. 2, ad 3.

matical wisdom (*fiunt sapientes in talibus, idest ad perfectionem istarum scientiarum pertingentes*).[115]

From the direction taken by Dr. Mullaney's article, it would seem that the most telling objection against the "liberal arts" concept as stated by St. Thomas is that some of the liberal *arts* are already *sciences*. Consequently, the sciences masquerading as pseudo-liberal arts—and which include, for Dr. Mullaney, the whole *quadrivium*—having been eliminated from the sequence, a whole space is left empty, and the vacated area may now be filled by the neo-liberal arts, the "humanities." On the other hand, supposing that it make no difference if the "liberal arts" be considered, or actually be, sciences, then the whole argument becomes inexistent. From the words of St. Thomas there is clearly no objection to the liberal arts being sciences. On the contrary, it is an ideal state which, if not indispensable, is at least desirable—for example, that a user of logic actually have the science of the various branches of logic he uses, that a user of mathematics actually have demonstrative knowledge of the formulas in geometry he employs.

But if they can be sciences, why then call them "liberal arts"? St. Thomas answers this by saying that the "arts" in question are called "arts" as well as sciences (*inter ceteras scientias, artes dicuntur*) because they not only have knowledge, but also a product (*quia non solum habent cognitionem, sed opus aliquod*).[116] Having been called "arts," they must then be called "liberal" to distinguish them from the servile or mechanical arts, which have a corporeal work (*habent opus corporale . . . unde non possunt dici artes liberales*).[117] Furthermore, they are ordained to the "liberal" or speculative sciences, as seen above.[118] But how can subjects such as grammar, rhetoric, music, even admitting it to be possible for them to be the subject of science, be ordered to the *speculative* sciences? The answer is that they cannot be directly, but rather they play

[115] VI *Ethic.*, l. 7, no. 1208; cf. note 18; 68; 71; 96.
[116] *In Boet. de Trin.*, q. 5, a. 1, ad 3.
[117] *Ibid.*
[118] Cf. *supra*, note 112.

a role in the existence of the fully-rounded liberal man. Such a man does indeed set his goal on that wherein consists the ultimate end of man, namely, the knowledge of divine things, as pursued in this life by the speculative sciences ordained to the most speculative and liberal of them all, divine science, both natural and supernatural. However, as St. Augustine puts it, and St. Thomas cites it, the speculative *love of truth* (*charitas veritatis*) must recognize also the practical *necessity of charity* (*necessitas charitatis*).[119] Consequently, the truly liberal man will have a contemplative life which does not necessarily exclude the active. Apart from the motivation of working for the common good, the active life can also in a personal sense be conducive to the speculative life by maintaining the moral virtues.[120] Therefore the education of the liberally-educated man will equip him for the market-place and the forum. For this, and in keeping with the directive role that accompanies a trained intellect, he should first of all be literate, i.e., know grammar. Thus, St. Thomas, elaborating on Aristotle's concept of natural subjection, links to some extent the latter with illiteracy, and the leadership of reason with literacy:

> Now to some those seem to be called "barbarians" who do not have written speech in their vulgar tongue. Whence Bede is said to have translated the liberal arts into the English tongue lest the English be thought barbarians.
>
> . . . It is plain that from the power of reason there proceeds that men should be ruled by reasonable law, and that they be trained in letters. Whence barbarism is fittingly manifested by the sign that men either do not have laws, or have irrational ones—and likewise that among some people there does not exist the exercise of letters.[121]

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[119] Otium sanctum quaerit charitas veritatis; negotium justum suscipit necessitas charitatis (*De Civitate Dei*, IX, c. 19). Cited by St. Thomas in *Summa Theol.*, I-II, q. 61, a. 5, ad 3; II-II, q. 182, a. 2, c.

[120] ". . . The active life, in so far as it composes and orders the interior passions of the soul . . . aids contemplation, which is impeded through the disorder of the interior passions" (*Summa Theol.*, II-II, q. 182, a. 3, c.).

[121] I *Polit.*, l. 1, no. 22-3. If Venerable Bede instituted the liberal arts to offset illiteracy, then writing, and consequently grammar, must be part of them. One notices also that this is connected with the active or civic status.

For the same reason, the liberally-educated man will be taught rhetoric, enabling him to put his ideas across persuasively in the open forum. Its connection with politics, the principal part of moral science, may be seen from the fact that in the Middle Ages a rudimentary law course was given as part of rhetoric.[122] This art, once acquired, should serve as an auxiliary to that single intellectual virtue called " science " yet specifically ordained to practical action, namely, *moral* science, in its most important aspect, political science.[123]

In this same vein, music and poetics too may be considered as part of a liberal arts education in the context of St. Thomas without for that reason having to be either a science or ordained directly as an instrument of speculative science. Speculative effort requires relaxation even more than physical effort.[124] This may be supplied by music and poetics as " intellectual enjoyment in leisure." [125] But in order to do this intelligently, one should make some study of the matter. Hence some study of the art of music, and of literary works, is well consonant with a complete liberal education.

But while it may seem sensible enough to call those aspects of a liberal education " arts " which are clearly not learned as sciences for their own sake, but as aids to the liberal life, such as the art of writing a sentence clearly and correctly, the art

[122] " At least some rudiments of law were everywhere taught in the ' schools of the Liberal Arts ' and by the masters of these arts. The old division of rhetoric into the three branches, ' demonstrative,' ' deliberative,' and ' judicial,' allowed the introduction of law-studies under the last-mentioned category without requiring the addition of a new art to the sacred Seven " (H. Rashdall, *The Universities of Europe in the Middle Ages*, ed. F. M. Powicke and A. B. Emden, 2 ed., 3 vols., Oxford: Oxford University Press, 1936, I, 102). Cf. note 60. St. Thomas so divided rhetoric in X *Ethic.*, l. 16, no. 2173.

[123] ". . . By prudence commonly so called a man rules himself in order to his own good, while through political (prudence) . . . to the common good " (*Summa Theol.*, II-II, q. 50, a. 2, ad 3).

[124] ". . . When the soul is raised above sensible things, intent upon the works of reason, there arises thence a certain fatigue of the spirit, whether a man be intent upon the works of practical reason or of speculative—nevertheless more so if he be intent upon the works of contemplation . . ." (*Summa Theol.*, II-II, q. 168, a. 2, c.).

[125] *Politics*, VIII, 1338a 20.

of speaking and writing persuasively, the art of selecting music and literary works and, in general, suitable relaxation, in a way as concordant as possible with intellectual effort, what of those disciplines which fall specifically under the head of speculative science, namely, the various branches of *mathematics?* How can mathematics, and specifically, arithmetic, geometry and astronomy—supposing music to be cultivated more for relaxation than for science—be called liberal *arts?* They certainly contain knowledge for their own sake, as when one learns the properties of geometrical figures as part of the *truth* of things without any reference to any *practical* application. But here one may notice that just as logic may be called a liberal "art" with reference to the science of mathematics, since it, for example, teaches how to construct demonstrations which geometry uses, so too the speculative science of mathematics may be considered an "art" with reference to the most speculative of all the sciences and to which the others are all ordained, namely, divine science: "All the others are ordained to it as to the end—whence this science alone is preeminently for its own sake."[126] The ordination of mathematics to divine science is mentioned by St. Thomas as being through astronomy,[127] which science is, with respect to the arithmetic and geometry from which it is derived, an application to the concrete.[128] Consequently, if astronomy is for the sake of the ultimate science and not for its own sake, and therefore an "art" in that it supplies something which divine science uses, so also the principles of arithmetic and geometry, which are not ends in themselves, find, so to speak, their perfection in

[126] I *Metaphys.*, l. 3, no. 59.

[127] ". . . This science (i.e., divine science) needs to know, for the knowledge of the separated substances, the number and order of the heavenly spheres, which is not possible without astronomy, for which the whole of mathematics is prerequisite" (*In Boet. de Trin.*, q. 5, a. 1, ad 9).

[128] ". . . The *scientiae mediae* . . . take principles abstracted from the purely mathematical sciences, and apply them to sensible matter, as, for example . . . astronomy applies the consideration of geometry and arithmetic to the heavens and its parts. . . . Since the consideration of these sciences terminates in natural matter, although they proceed through mathematical principles, they are more natural than mathematical" (II *Physic.*, l. 3, no. 164).

making possible the astronomy which divine science uses: just as astronomy is an " art " with respect to divine science, they are an " art " with respect to astronomy.

The idea that mathematics, and above all astronomy, is required for metaphysics certainly appears today as a strange notion. Of course St. Thomas has in the mind the arguments by which Aristotle in *Metaphysics* XII (1073a 15) attempted to determine the number of the separated intelligences by means of dialectical arguments drawn from the mathematical hypotheses of the astronomers as to the number of distinct planetary motions.

Nevertheless, the notion will not seem so implausible if we stop to consider that all that philosophy can know about the Creator must be drawn by inference from a study of his creation. Thomist metaphysicians today tend to ignore any but apodictic arguments in metaphysics, and to reject probable argumentation as beneath the notice of their science. Thus many Thomists were made acutely uncomfortable by the well-known address of Pius XII to the Pontifical Academy of Sciences in which he made use of modern physical theory to confirm and " illustrate " the traditional Thomistic proofs of the existence of God.[129] St. Thomas, however, did not scorn dialectical reasoning in metaphysics. He constantly quotes the famous saying of Aristotle that " even a little probable knowledge of divine things is worth much more than certain knowledge of less noble objects." [130]

Hence, metaphysics does not scorn such light as can be cast on the nature of the divine by a study of the physical cosmos, even if that knowledge be only probable. This knowledge is had through natural science, but natural science is not able to go very far in showing us the general plan of the universe without the assistance of the conjectures of mathematical physics. Hence the theories which modern physicists call " cosmology " and which are chiefly astronomical and mathematical in char-

[129] *AAS.*, 44 (1952), pp. 31-43.
[130] I *de Anima*, l. 1, no. 7; cf. note 94, 92 and 22.

acter would have been treated by St. Thomas with genuine respect, and Pius XII was truly of the same spirit.

This does not mean, by the way, that the only contribution of mathematics to metaphysics is by way of astronomy. The fact that mathematics provides us with our clearest ideas of unity, multitude, order, relation, and beauty [131] means that it is of immense importance to the metaphysician in forming the analogous and transcendental concepts which he uses. Indeed the very conception of *analogy* so fundamental to the method of metaphysics is derived (by analogy) from the mathematical notion of *ratio* and *proportion*.[132] Plato and St. Augustine were not mistaken in thinking that mathematics plays a very great role in the development of the mind as it passes from the sensible to the intelligible order, and Aristotle does not reject this conception, as long as it is understood that the role of mathematics is confined to an analysis of the order of formal causality, and cannot substitute for natural science in the study of the other causes.

One might then say: Why not call natural science an "art" too, since it also is not wholly for its own sake but is ordained to divine science? One could indeed do this, but historically natural science entered the curriculum *after* the "seven" liberal arts had become more or less sacrosanct. At the same time, natural science already has a certain community with divine science, since both are of the being of nature and one leads naturally to the other: ". . . The knowledge of these

[131] "Now since the good and beautiful are different (for the former always implies conduct as its subject, while the beautiful is found also in motionless things), those who assert that the mathematical sciences say nothing of the beautiful or the good are in error. For these sciences say and prove a great deal about them; if they do not expressly mention them, but prove attributes which are their results or their definitions, it is not true to say that they tell us nothing about them. The chief forms of beauty are order and symmetry and definiteness, which the mathematical sciences demonstate in a special degree. And since these (e.g. order and definiteness) are obviously causes of many things, evidently these sciences must treat this sort of causative principle also (i.e. the beautiful) as in some sense a cause." (*Metaphysics*, XIII, c. 3, 1078a 32-55).

[132] Cf. J. Ramirez, "De analogia sec. doctrinam aristotelico-thomisticam." *La Ciencia Tomista*, XIII (1921), 20-40; 195-214; 337-357.

sensible substances is the way to the knowledge of the aforesaid separated substances." [133] Thus the existence of the divine substance, which is the end of all knowledge, is already attained in the *Physics*, where one arrives at the First Mover—as St. Thomas states in his *Exposition of the Metaphysics*.[134] In effect, St. Thomas does not look on metaphysics as proving the existence of the divine being, but as understanding something of it, its existence having already been established in natural science.

To sum up the cogency and importance of objections leveled at the seven liberal arts—which St. Thomas does indeed accept and enumerate in harmony with his contemporaries—as being not "liberal," not "arts," but, if anything "sciences," with reference to a liberal education in St. Thomas' terms, one need only suppose for a moment that there is no such thing, and and never was any such thing, as the seven liberal arts, and then ask onself what consequences that would involve for St. Thomas' outlook. The answer is: None. In effect, St. Thomas says that the education leading to man's natural end, the knowledge of the first cause, begins naturally with *logic*, which teaches the method of all the sciences, the art thereof—and man is intended to live by art. This done, one would proceed to the first of the sciences to be learned, namely, *mathematics*. What is involved in these two steps? It is clear that "logic" means for St. Thomas, ideally speaking, the whole of the *Organon*, as he himself sets forth in the prologue to his *Exposition of the Posterior Analytics*, involving thus the study of all of formal logic in *Categories, Peri Hermeneias, Prior Analytics*; demonstration in *Posterior Analytics*; dialectics in the *Topics*; rhetoric in the *Rhetoric*; drama and literature and allied subjects in the *Poetics*; sophistics in the *De Sophisticis Elenchis*. What of "mathematics"? As to the content of this as a stage on the way to divine science, St. Thomas

[133] VII *Metaphys.*, l. 17, no. 1648. Cf. note 92.

[134] ". . . It was proved in *Physics* VIII that, since one may not go to infinity in movers and things moved, it is necessary to arrive at some First Immovable Mover . . ." (XII *Metaphys.*, l. 6, no. 2517).

has already been cited as stating that it involves astronomy, for which all of arithmetic and geometry are prerequisite. Likewise, in this pursuit St. Thomas recognizes the need for relaxation and certainly music and allied arts would be approved by him. Consequently, even if there were no "liberal arts," anyone who endeavored to follow the educational pattern traced by St. Thomas would still find himself following a course which is substantially that of the traditional seven. So, let us concede that the liberal arts are not liberal arts—St. Thomas' teaching and its motivation still remain the same.

B. *St. Thomas' division of the arts and sciences as against the realignment thereof.*

The following steps are intended to express the genesis and development of the arts and sciences, under the general heading of the intellectual virtues, as St. Thomas himself expresses them. The number of the steps will also be found in the accompanying outline, indicating the sequence to be followed. Subsequently there will be listed under each of them the pertinent references in St. Thomas. Following this certain differences will be noted between this outline and current conceptions.

Steps in the genesis and development of the arts and sciences:

(1) The basic division of the *arts* and *sciences*, representing that by which man lives as a man, and contained under the general heading of the *intellectual virtues*, sees these divided into *speculative* and *practical*, accordingly as the knowledge in question is desired for the sake of knowing the *truth* of things, or is further ordered to *doing* or *making* something.

(2) First among these habits of mind which are the intellectual virtues is *understanding*, the habit of *first principles*, which all subsequent thought, whether in the speculative or in the practical order, presupposes.

(3) Since one must live before one can speculate, man's first concern is directed towards the necessities of life, and the arts first invented, those arts comprising certain sure principles

derived from experience and ordained to the making of things, are called, generically, the *practical* intellectual virtue of *art*. These arts, by contrast with the subsequent " liberal " arts, are called " servile," and also " mechanical," " manual." In contrast to the practical habit of *doing*, which causes the knowledge of *prudence* to be called " *active*," that of the *arts* is called " *factive*."

(4) Once man has mastered the arts of acquiring the necessities of life, he turns naturally to those arts concerned with *pleasure* and *relaxation*. Such arts would be, for example, music, the dance, theatre, poetry and other literature, and would fit under the contemporary category of the " *fine* " arts. Such arts, while originating initially as relaxation from *physical* labor, may also, as man becomes more engaged in *intellectual* labor, become correspondingly more intellectual and even serve to communicate the truth, especially moral truth, through representation.

(5) The necessities of life and due relaxation having been obtained, man naturally turns to the *speculative*. Now the mind which, addressing itself to corporeal things, found the various arts of agriculture, building, etc., now forms the art of thinking itself, namely, *logic*, which presupposes grammar for its external manifestation, and is geared for human affairs in rhetoric. This art is called a " liberal " art because it is ordained primarily to the " liberal " or speculative sciences, and is consequently part of the speculative intellect, allied to *science*, with which it may itself be classed.

(6) Logic involves a *formal* and a *material* side, the former concerned with the common *structure* of reasoning, the latter with the different types of *subject-matter*. In this latter realm, *demonstrative* or judicative logic is ordained to science; *dialectical* or inventive logic to contingent things, including human affairs in *rhetoric*, inducement to virtue by representation in *poetics; sophistic* logic is ordained to a study of fallacious reasoning.

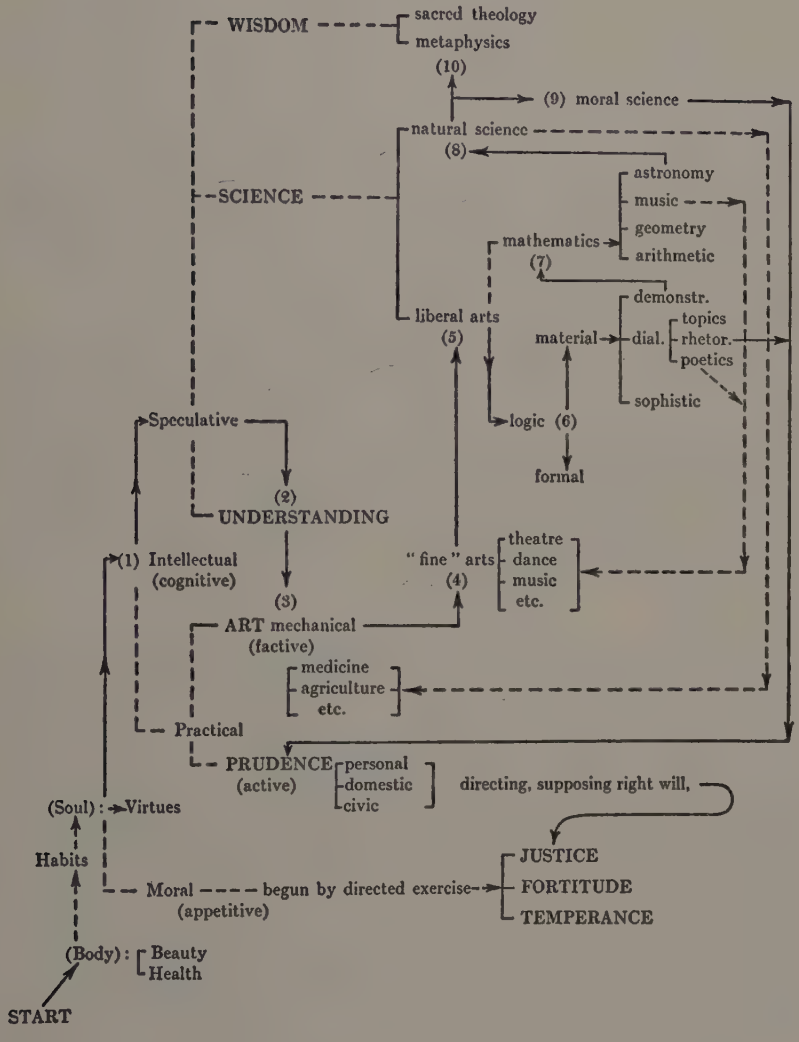
(7) The first application of logic as an art of thinking, to an understanding of the nature of things in science, begins with

that science which is the easiest to grasp as requiring less experience, namely, *mathematics,* which, with its *quadrivium,* succeeding to the *trivium* of logic, is likewise called a "liberal" art. In effect, it is not so much for its own sake as ordained to the knowledge of the nature of things pursued in natural science and metaphysics. Thus arithmetic and geometry are used by natural science and metaphysics in their application to matter in astronomy. Music, while it can be studied as the application of arithmetic to sensible sound (as perspective or drawing may be considered the application of geometry to sensible extension), is, however, more usually to be studied simply as an art of pleasure or relaxation, a "fine" art with an intellectual structure, as well as with moral influence on the passions.

(8) Next in order of the sciences is that whose object is best known, but whose acquisition requires experience of reality, namely, *natural science* (identical for Aristotle and St. Thomas with natural philosophy) of material being. This science leads naturally, in the pursuit of first causes, to the ultimate science, involving immaterial being, and embracing the totality of being and its causes. Natural science may, however, be used in a practical way, supplying principles used in such practical arts as medicine and agriculture. Thus these arts originally acquired by experience, may be further added to by the application of the findings of speculative science.

(9) Man's life cannot be completely speculative, and he must therefore make decisions concerning things to be done, on the personal, domestic, and communal level. This is the realm of *moral science,* which, combined with right will, constitutes the *practical* intellectual virtue of *prudence,* personal, domestic, and civic or political. Prudence dictates the acts of the *moral virtues,* already intended to be imprinted in youths by the exercise under the direction of those in charge of one's upbringing. The role of prudence in general is to ordain their voluntary acts in order to approach as closely as possible to the speculative goal of the knowledge of divine things. Thus

THE ARTS AND SCIENCES



political prudence aims at disposing the state in the practical order in such a way as to make this possible in the speculative order.

(10) The peace and leisure obtained under the ordination of political prudence are intended to render possible the perfection of the speculative life in *metaphysics* or divine science. This highest and ultimate science in the natural order is subordinated in turn to revealed divine science or *sacred theology*. This latter, since its principles are revealed rather than acquired, actually, in its role as supreme science, oversees and directs human activity in all its aspects (whether speculative or practical) from the start. The corresponding speculative intellectual virtue of these ultimate sciences is *wisdom*.

(The above steps regard basically man's *intellectual* development, i. e., of the *cognitive* aspect of his *soul*. Previous to this there is of course first, in the child, care of the *body*. Then, in the *soul*, the imprinting of the *moral* virtues in the *appetitive* part through directed exercise even before the use of reason, precedes the beginning of the *intellectual* virtues, which start when reason begins to function.)

References:

(1) Enumeration of the intellectual virtues and division into speculative and practical:

Summa Theol., I-II, q. 56, a. 3 — I *Metaphys.*, l. 1, no. 34-5
Summa Theol., I-II, q. 57, a. 2-4 — VI *Ethics.*, l. 3, no. 1143 ff.

Further references on the division of intellectual knowledge into *speculative*—truth for its own sake—and *practical*—truth for the sake of operation:

Summa Theol., I, q. 79, a. 11 — III *de Anima*, l. 15, no. 820
Summa Theol., I, q. 14, a. 16 — II *Metaphys.*, l. 2, no. 290
Summa Theol., I-II, q. 94, a. 4 — VI *Ethic.*, l. 2, no. 1132
I *Polit., Prooem.*, no. 6

(2) Understanding as the first habit:

Summa Theol., I-II, q. 57, a. 2 — II *Post. Anal.*, l. 20
VI *Ethic.*, l. 5, no. 1179

(3) Mechanical, or useful, arts are found first:

I *Metaphys.*, l. 1, no. 32-3
I *Metaphys.*, l. 3, no. 57

(4) Subsequently come the arts of pleasure and relaxation:

I *Metaphys.*, l. 1, no. 33
I *Metaphys.*, l. 3, no. 57
X *Ethic.*, l. 9, no. 2077
Summa Theol., II-II, q. 168, a. 2

(5) Then the speculative or liberal arts, as introductory to the sciences:

I *Metaphys.*, l. 1, no. 33
I *Metaphys.*, l. 3, no. 57
II *Metaphys.*, l. 5, no. 335
VI *Ethic.*, l. 7, no. 1211
In de Trin., q. 5, a. 1, ad 3
In de Trin., q. 6, a. 1, ad 3
In Libr. de Causis, Prooem.

(6) Logic is divided into formal and material, and the latter into demonstrative, dialectical and sophistic:

I *Post. Anal.*, l. 1

(7) Logic, or the method of reasoning, is first applied in mathematics:

VI *Ethic.*, l. 7, no. 1208 ff.
In Libr. de Causis, Prooem.
In de Trin., q. 5, a. 1, ad 3
In de Trin., q. 5, a. 1, ad 9
Politics, VIII, 1337b 25 ff.

(8) Next comes natural science, which, though speculative, may be practically applied:

VI *Ethic.*, l. 7, no. 1208 ff.
In Libr. de Causis, Prooem.
In de Trin., q. 5, a. 1, ad 5
VII *Metaphys.*, l. 17, no. 1648

(9) After experience, and exercise in controlling the passions, comes the study of moral science in its threefold division, perfected in prudence, disposing human things for the sake of the divine:

VI *Ethic.*, l. 7, nos. 1200, 1208 ff.
In Libr. de Causis, Prooem.
I *Ethic.*, l. 3, no. 37-41
X *Ethic.*, l. 14, no. 2146-54
Summa Theol., I-II, q. 66, a. 5, ad 1
VI *Ethic.*, l. 6, no. 1185-93
VI *Ethic.*, l. 10, no. 1264-67
I *Ethic.*, l. 2, no. 31

(10) The ultimate science, to which all previous study is ordained, is divine science, natural and revealed:

VI *Ethic.*, l. 7, no. 1208 ff.
In Libr. de Causis, Prooem.
In de Trin., q. 5, a. 4, c.
In de Trin., q. 6, a. 1, ad 3m q.
In de Trin., q. 6, a. 4, obj. 5; ad 3-5
Summa Theol., I, q. 1, a. 4

Remarks:

The general division of intellectual knowledge into *speculative* and *practical* may employ the word " theoretical " instead of " speculative," using the Greek rather than the Latin root, but with the same meaning of " seeing " or " contemplating."

The present outline does not contain any distinction between " philosophy of nature " and " physical sciences," since it is intended to represent these matters as considered by St. Thomas, for whom, as is well known, no such distinction exists.[135] Sciences such as the biological sciences would not constitute an additional group, but would simply represent integral parts of a single science, with the exception of *mathematical* natural science, which is formally distinct as a *scientia media*.

Practical knowledge, as to choice of terms, is not divided into " practical " and " productive," since, following St. Thomas, the division here is into " active " and " factive," (Cf. *In Polit., Prooem.*, no. 6; VI *Ethic.*, l. 2, no. 1135; l. 3, no. 1150; l. 4, no. 1165. This corresponds to the division of prudence and art on the basis of *agibile* and *factibile*, or operation remaining within the agent, and operation passing into external matter, in, for example, *Summa Theol.*, I, q. 18, a. 3, ad 1; I-II, q. 57, a. 4, c.; a. 5, ad 1; q. 74, a. 1, c.; I *Ethics.*, l. 1, no. 13; IX *Metaphys.*, l. 2, no. 1786-88; l. 8, no. 1862-65).

" Moral philosophy " is not in this outline divided against " social science," since moral science as understood by St. Thomas, with its threefold division into *ethics* (for a man himself), *economics* or domestic science (for a family), and *politics*

[135] For the textual proof of this point see B. M. Ashley, O. P., " The Role of the Philosophy of Nature in Catholic Liberal Education," *Proceedings of the American Catholic Philosophical Association, XXX* (1956), 62-84.

or civil science (for a whole community in city or state), fully embraces anything considered under what is called "social science." (Cf. for this division in St. Thomas: *Summa Theol.*, II-II, q. 50, aa. 2-3; I *Ethics.*, l. 1, no. 6; VI, l. 7, no. 1200).

Finally, the liberal arts are not placed under practical "arts," but under speculative "science," since St. Thomas specifically refers to them as *speculative* habits, in, for example, *Summa Theol.*, I-II, q. 57, a. 3, ad 3 (*habitus speculativi*); II-II, q. 47, a. 2, ad 3 (*ratio speculativa quaedam facit, puta syllogismum*); and likewise sees no difficulty in their being even *sciences*, as, for example, with respect to logic in III *de Anima*, l. 8, no. 718 (*scientia rationalis*); I *Post. Anal., Prooem.*, no. 2 (*haec ars est Logica, idest rationalis scientia*); IV *Metaphy.*, l. 4, no. 576 (*Dialectica . . . secundum quod est docens . . . est scientia*); with respect to mathematics in VI *Ethic.*, l. 7, no. 1208 (*juvenes . . . ad perfectionem istarum scientiarum pertingentes*); *In de Trin.*, q. 5, a. 1, ad 3 (*mathematica potest sciri a pueris*).

C. *The Neo-Liberal Arts: the Humanities as the new Quadrivium.*

Some years ago Jacob Klein, Dean of St. John's College, Annapolis, in a brilliant lecture argued that as a matter of fact the medieval liberal arts have today been replaced by two arts: "the historical or comparative method," which reigns in literature, philosophy, and in the social sciences in large measure, and the "mathematical or scientific method" which reigns in all other fields. He attempted to trace this new arrangement to Leibnitz' distinction between "facts" and "theories."

Those who advocate that the "humanities" replace the liberal arts seem to think in terms of the same dichotomy.[186] Thus, when Dr. Mullaney speaks of "mathematics and science" as not constituting (liberal) art, he is referring under

[186] On the other hand, Jacques Maritain seems to go to an opposite extreme: "Physics should be taught and revered as a liberal art of the first rank: like poetry, and probably more important than even mathematics." *Education at the Crossroads* (New Haven: Yale University Press, 1943), p. 69. Maritain evidently uses "liberal art" here simply to mean a "liberal discipline."

" mathematics " to arithmetic and geometry, under " science " to music and astronomy, which latter two he has previously reduced to natural science. Since these four are equated to the *quadrivium,* the *quadrivium,* as science masquerading under the title of " liberal arts," must go. In its place now come the " humanities." ". . . We should recognize that history is a liberal art; and further that the humanities, understood as the integrated study of a civilization in its history, philosophy, literature and art, is a liberal art; and that the humanities, grouped around history, make a perfectly sensible content for the *quadrivium* " (p. 503). This author further suggests that " educational practice at the college and university levels has for many years, acted on these two convictions [i. e., that mathematics and science are *not* liberal art, whereas the humanities, grouped around history, *are*] without ever formulating them explicitly " (p. 503). This may well be the case, but the present point at issue is whether, be it in fact or in theory, such an outlook may be considered compatible with St. Thomas. Since *history* is here constituted, more or less, the foundation of the new *quadrivium*—and Dr. Mullaney has indeed established it elsewhere as very much of a liberal art since it is a *reconstruction* (and hence " art ") of a culture, studied *for its own sake* (and hence " liberal ") —it is necessary to consider the place of history in the curriculum of St. Thomas.

It is clear that in the terminology of St. Thomas, " history," or *historia,* refers not to any special *branch* of knowledge, but rather to a *way* of treating *any* branch of knowledge, and which consists in setting down in the beginning of that study whatever has gone before, whether in the nature of inductive facts or in the nature of opinions. Thus, instead of starting out from scratch, so to speak, one starts out with the benefit of the findings of those who have gone before. In this respect, all the works of Aristotle begin with a " history " of previous opinions wherever these exist, as may be seen in the *Physics, De Anima, Metaphysics.* Is there anything corresponding to what *we* call " history "? The subject-matter which would correspond to what we call " history," and which consists in setting forth the

series of events in the life of a people or peoples, would be, in the educational program of Aristotle and St. Thomas, a prelude to *moral science,* and in particular to *political* science. Thus Aristotle states in the *Rhetoric* (1360a 30 ff.) that the study of the past history of one's own country and of others is the business of political science.

In effect, just as, in endeavoring to determine the nature of the physical universe, one would begin with an examination and appraisal of the solutions to the problem given by one's predecessors, so too, in endeavoring to determine the nature and means of happiness, the goal of man's voluntary endeavors, comprising moral science, it is only natural to examine what others have thought about it and how they have gone about attaining it and with what success. Since man is a social animal and his strivings for happiness and well-being inevitably take a communal form, the examination of those strivings and the means employed will necessarily be a study of whole peoples and their institutions—in a word, history. Such a study is, of course, most apt for one who is himself to be engaged in framing general laws for the community calculated to promote the common well-being, and consequently in his outlining of what a future legislator must have, at the end of the *Nicomachean Ethics,* Aristotle includes the study of previous laws and constitutions of states. He then proceeds to give himself such a history as the starting point of his *Politics.*

Such a course is, in a democracy especially, where all the students are, as future voters, likewise legislators, who can, by their indifference or gullibility, allow the country to fall into evil hands, and contrariwise, by their enlightenment and alertness, ensure sensible legislation, a very vital thing. Since, however, it is in the domain of moral science, where experience is indispensable—for in moral matters one needs to have experience to know what is really good and probable, unexperienced conjectures being likewise unrealistic—such a study of history is not going to be fully valuable unless one has an experiential basis for assessing the feasibility of the courses suggested.[137]

[137] ". . . While collections of laws, and of constitutions also, may be serviceable

St. Thomas stresses the indispensability of experience in this matter as follows:

> . . . Those who have experience concerning individual instances, have the right judgment as to works, and understand by what means and in what ways such works may be accomplished, and what works befit what persons or enterprises. But it is reasonable that it should escape the inexperienced whether a work might be done well or ill from what they find transmitted in writing. For they are ignorant of the application of that which they find written down, to practice. But laws to be made are related to political "works," for they are set up in the manner of rules for political works. Whence those who do not know [by experience] what sort are fitting works, are not able to know what laws are fitting.[138]

From the above it is clear that history so conceived is *not* studied for itself, but as an adjunct of political science, and as part of the preparation for citizenship in a democracy, where the liberal, or free, man is expected to take a part in the government. Even in this role, it is subordinate to, and not a substitute for, experience. However, the vicarious experience of others can certainly contribute to sound prudential judgments either on the personal or on the social scale, and therefore history would be an integral part of the curriculum of St. Thomas as an adjunct of that moral science which consists ideally in perfecting the intellectual virtue of prudence in those who *already* possess by exercise the moral virtues of justice, fortitude and temperance. As both Aristotle and St. Thomas stress, moral teaching has no influence over those who do not have control of their passions,[139] and consequently moral science

to those who can study them and judge what is good or bad and what enactments suit what circumstances, those who go through such collections without a practised faculty will not have right judgment (unless it be as a spontaneous gift of nature) though they may perhaps become more intelligent in such matters" (*Ethics*, X, 1181b 5).

[138] X *Ethic.*, l. 16, no. 2176.

[139] ". . . Words and teaching are not efficacious with all, but it is necessary if they are to be efficacious with someone that the soul of the listener be prepared through many good habits to rejoice in good things and hate evil things. . . . For he who lives according to the passions, does not willingly hear the words of the one admonishing, nor will he even understand, in such a way as to judge that to be good towards which he is being led. Whence no one is able to persuade him" (X *Ethic.*, l. 14, no. 2146).

presupposes, rather than *constitutes*, moral virtue: it is for the sake of teaching one who has hitherto been well directed by others, now to *direct* himself, and others as the case may arise.

Now since prudence is a *practical* intellectual virtue, history, considered as an adjunct of prudence, especially political prudence, cannot be a discipline learned *for its own sake*. In this sense, then, it cannot fulfil Dr. Mullaney's definition of "liberal" and therefore cannot be a liberal art. But what is against studying history for its own sake, studying it in its broadest sense of embracing a whole culture at a given period, comprising the literature, art and philosophy of that time? Thus one might, in a four-year series, study successively 'the classical Graeco-Roman, the medieval Christian, the Renaissance, . . . the contemporary secular culture" (p. 501). There is nothing wrong with it, but neither in the mind of Aristotle nor of St. Thomas would it occupy a very important position. As has been seen, the study of history has a definite role in the practical moral order. In the speculative order, in the order of knowledge of the truth for its own sake, however, it has relatively little. This is summed up in the famous words of Aristotle in the *Poetics*: ". . . Poetry is something more philosophic and of graver import than history, since its statements are of the nature rather of universals, whereas those of history are singulars." [140] What does this mean? It is simply a pointing out of the fact that history is of the contingent singular, in a domain where the law of reason does not necessarily prevail. Consequently, as a means of attaining to a knowledge of the immutable nature of things, leading to first causes, as science, it does not rank high, as may be seen from the great historical variety of opinions on wherein lies right and wrong, on the value of material goods, etc. This also extends to the study of literature and art as a primary means of attaining to the truth in things. Since for certain knowledge one must proceed demonstratively and univocally, and they proceed primarily by metaphor and image, that is not their prime function.[141]

[140] *Poetics*, 1451b 5.

[141] ". . . It seems to be a similar sin if one should take some mathematician using

As has been seen, history in the sense of the study of the customs and evolution of peoples, whether past or present, for the sake of having good laws in one's own community—and which could well be called a study of cultures—does indeed have a significant place in an education following the lead of Aristotle and St. Thomas. It would not, however, be a study of these for their own sake, as is the case with the speculative sciences leading toward first causes. Nor could it be a liberal art leading *towards* speculative science, since its purpose and function, being that of moral science, is not speculative but rather oriented toward practical application.[142] The rather short shrift that one might expect from St. Thomas for the project of studying a culture, not to know " what is the truth," but " what did the people of this culture believe to be the truth " (p. 502), seems to be contained in his comment on the urgency of trying to discover whether Plato's words mean what they seem to mean or something else, namely: ". . . The study of philosophy [i. e., the search for the knowledge of the causes of things] is not for the purpose of knowing what men may have thought, but for the purpose of knowing what is the truth of things." [143]

If one endeavors to understand the substitution of history and the humanities for mathematical and pre-natural science courses as a foundation on which to build a liberal curriculum, in terms of St. Thomas, it seems to connote one thing: the de-emphasizing of the speculative in favor of the practical. In effect, history in its best sense as an auxiliary of moral science, leads to that perfection of moral virtue which may be called

rhetorical persuasions, and should seek from a rhetorician certain demonstrations, such as the mathematician should put forward. For both cases arise from not considering the manner which befits the matter " (I *Ethic.*, l. 3, no. 36).

[142] ". . . It is desirable when making a treatise on such, i. e., on so variable things . . . to show the truth . . . in a rough way, i. e., by applying universal principles and simple things to singular and composite things, which is the area of act. For it is necessary in any operative science that one should proceed in the 'composite' manner. But it is the converse in speculative science, where it is necessary to proceed in the 'resolutory' manner, resolving composite things into simple principles " (I *Ethic.*, l. 3, no. 35).

[143] I *De Caelo*, l. 22, no. 228 (Spiazzi).

active happiness. This happiness is, nevertheless, beneath *speculative* happiness,[144] and therefore the education geared to lead to the latter, as is the liberal education of St. Thomas where the liberal arts are geared to the speculative sciences as the ultimate, is of a superior kind: ". . . The consideration of the speculative sciences is a certain participation of true and perfect happiness." [145]

Is there then no need at all for a reform of the traditional liberal arts, or their adaptation to current needs? To this we should answer that indeed it would be a great mistake today merely to revive the liberal arts as they were actually practiced in the Middle Ages or the Renaissance, and this for two reasons: first, because the theory of the liberal arts as it is given by St. Thomas was never consistently applied in the past; second, because there have been real advances in each of the liberal arts since St. Thomas' time.

As to the first of these points, it is well known, or should be well known, that the so-called " classical education " based on the study of Latin and Greek was in no way a pure application of the medieval conception of the fine arts. The medieval conception, as we have seen, ordered the liberal arts to speculative truth and the contemplative life, and hence made logic the dominant art. The Renaissance tradition was a return to the attitude of the Sophists and of Isocrates, and of the Ciceronians, which ordered these arts to the practical life of the public official and the liberal active life, and hence made rhetoric the dominant art. Even in the study of rhetoric this

[144] ". . . (Aristotle states) that while he who devotes himself to the speculation of truth is the most happy, in a secondary way he is happy who lives according to another virtue, namely, according to prudence, which directs all the moral virtues. For just as speculative happiness is attributed to wisdom, which comprehends within itself the other speculative habits as being the more dominant among them, so likewise active happiness, which is according to the operations of the moral virtues, is attributed to prudence, which is perfective of all the moral virtues, as was shown in Book VI " (X *Ethic.*, l. 12, no. 2111).

[145] *Summa Theol.*, I-II, q. 3, a. 6, c.; q. 57, a. 1, ad 2. Cf. II-II, q. 182, a. 1, c., where St. Thomas in proof of the proposition that " the contemplative life is absolutely better than the active," cites the eight reasons Aristotle gives for the superiority of speculative happiness in *Ethics* X.

classical tradition quickly degenerated. The art of rhetoric ceased to be an art of persuasion instrumental to politics, and became a mere art of " style," so that the sterile study of grammar came to dominate education.[146]

Even in the Middle Ages the theory of St. Thomas was not the dominant view. In the earlier Middle Ages there was a tendency to identify the arts with philosophy, so that the *quadrivium* took the place of natural science (an identification found in current expositions, as we have seen), while ethics and metaphysics were absorbed into sacred theology. In the late Middle Ages the tendency was to an exaggerated development of the dialectical and grammatical aspects of logic, but with little appreciation of its poetic and rhetorical side. There was a tendency, noted by Roger Bacon, to neglect the development of mathematics, and the study of languages, which later gave a handle to the accusations of the Renaissance rhetoricians that the writers of the Middle Ages were logic-choppers with hearts of lead and tongues of iron.

What is required today is the application of the theory of St. Thomas that clearly distinguishes the speculative sciences from the liberal arts, which are only introductory, and that at the same time gives to the liberal arts their full range including poetics, rhetoric, dialectics, demonstrative logic, pure and applied mathematics.

As to the development of these arts since medieval times, it is plain also that the sound theory of each art as developed by Aristotle needs to be enriched with modern developments. Thus " grammar " needs to be taught so as to make use of the modern development of scientific linguistics and " communication theory." [147] Poetics, functioning in literary criticism, needs to be given a rightful place, as Aristotle intended, and not to be confused with a mere grammatical analysis of a text, as in " classical " education. Logic must be distinguished into its

[146] See Richard P. McKeon, " Rhetoric in the Middle Ages," *Speculum*, XVII (1942), 1-32.

[147] But see Leonard A. Waters, " Progressivist Attack on Grammar," *America*, April 12, 1958, pp. 56-58, for some dangers in the pedagogical application of structural linguistics.

dialectical and its demonstrative parts, and the techniques of logical calculus which we call " symbolic logic " must be given their proper instrumental role. Furthermore, the very considerable development of dialectics as it is used in what we today call " the scientific method " of hypothetical " theory construction " must be recognized.

As for rhetoric, the discoveries of " propaganda analysis," " mass communication techniques," " motivational research," etc., should be utilized. Along with rhetoric and dialectic the meaning of " the historical method " and the techniques of description devised by the social sciences need to be treated, since through these instruments we are able to write and present history much more accurately and artfully than ever before.

In the *quadrivium* remarkable advances have been made in mathematics. The " traditional " teaching of algebra has neglected the axiomatic method which makes mathematics both a true art and a true science, while Euclid's geometry has been very greatly improved by a more perfect employment of this method. Today, one claims, it is possible to teach even elementary mathematics in terms of *set-theory* in a way which makes it a much more perfect example of scientific thinking than in its ancient formulation. Furthermore, the development of the theory of mechanics in mathematical physics since Galileo, makes it possible for us to present applied mathematics in a fashion far superior to the meager achievements of the ancients.

At the same time that we enrich the liberal arts with modern advances, however, we must be very careful to see that we present these arts on a sound Aristotelian basis. In each field of art there exist today many very divergent views and much confused or erroneous doctrine. In the field of mathematics, for example, the *logicist, formalist,* and *intuitionist* schools are divided on the various principles of their science. If we teach a *logicist* mathematics we will teach our students that the *quadrivium* and *trivium* are identical with each other. If we teach a *formalist* mathematics we will deny that mathematics is a science at all, and turn it into an art which has no purpose, a mere game, with the risk of inculcating a deep scepticism in

young minds. If we teach the *intuitionist* approach we are likely to infect our students with certain Kantian assumptions.

Similarly in the field of logic an uncritical presentation of the modern system of symbolic logic means that we indoctrinate our students with nominalism. An uncritical presentation of the modern " motivational research " approach to rhetoric will make them Machiavellians. An uncritical presentation of the " scientific method " in dialectics will make them relativists. And finally an uncritical presentation of poetics and theory of the fine arts in terms of modern " symbolism " will make them irrationalists and pseudo-mystics.

Nothing will do but a revival of the liberal arts, firmly grounded and richly developed. We may recall the words of Leo XIII in *Aeterni Patris*:

> When philosophy stood stainless in honor and wise in judgment, then, as facts and constant experience showed, the liberal arts flourished as never before or since; but, neglected and almost blotted out, they lay prone since philosophy began to lean to error and join hands with folly.

The principle which Leo recommended to give a firm foundation to such a revival was the Thomistic conviction that the liberal arts and all the sciences to which they lead are directed toward wisdom, and not to mere technical control or " creative self-expression."

In closing one cannot help but observe again the striking fact that it is in following the speculatively-orientated curriculum of St. Thomas, where the core is constituted by the natural sciences leading to divine science, that one would—in contrast to a humanities-orientated curriculum—find oneself also in complete accord with the curriculum now being urged most pressingly for motives of survival, wherein mathematics and natural science likewise occupy a central position. If this curriculum of St. Thomas is not at present anywhere genuinely followed, it need not be because it is seven hundred years too late—it may simply be that it is still just a year or so too soon.

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THE ART AND SCIENCE OF FORMAL LOGIC IN THOMISTIC PHILOSOPHY

I. Introduction

THOMISTIC logicians have always considered logic as both an *art* and a science.[1] It is considered to be the "art of reasoning rightly," and at the same time it is regarded as the science which contemplates the order which the intellect makes among its acts. It is my intention to trace out the character of logic as the art which is "natural" to the intellect, to show how this natural art can become the object of a science, and then to show how this science perfects the art of logic. We shall thus see two degrees of perfection of the art of logic and two ends for the science of logic.

It must be emphasized that "logic" here does not mean what it does for some moderns, such as Suzanne Langer, who has said:

> Logic deals with any forms whatever without reference to content.[2]
>
> . . . the logical form of a thing depends upon its structure, or the way it is put together; that is to say, upon the way its several parts are *related* to each other.[3]

Other moderns as well have been most insistent that logic does not study the discourse of reason itself. Jan Lukasiewicz, for example, says:

> It is not true, however, that logic is the science of the laws of thought. It is not the object of logic to investigate how we are thinking actually or how we ought to think. The first task belongs to psychology, the second to a practical art of a similar kind to

[1] John of St. Thomas, *Cursus Philosophicus, Ars Logica*, P. II, Q. I, Art. I.

[2] S. K. Langer, *An Introduction to Symbolic Logic*, 2nd ed. rev., New York, 1953, p. 43.

[3] *Ibid.*, p. 45.

mnemonics. Logic has no more to do with thinking than mathematics has.[4]

We may say therefore: The logic of Aristotle is a theory of the relations A, E, I, and O in the field of universal terms.[5]

In this view "logic" would properly be a study of relations in abstraction from concrete relata. This study would pertain, in Thomistic philosophy, to the *metaphysical* study of relation. It would not be logic at all. For the Thomist, logic is always concerned with the very act of thought itself.

(Logic) has as its proper matter the very act of the reason.[6] . . . Logic not only proceeds in conformity with reason, as do all the sciences, but bears upon the act of reason itself, whence its name, the science of reason, or of the *logos*.[7]

Moreover, logic, for the Thomist, is primarily *formal logic*. *Material* logic is logic in a secondary sense, receiving its directionality, its intelligibility, from formal logic (*materia est propter formam*). Our consideration here will be confined to formal logic.

II. Logic as the "Natural Art" of Reason

For the Thomist, art is the *recta ratio factibilium*, the "right ordering of makeables." Art always refers to something to be made, and the making always takes place under the direction of an intellect, which alone can *order*. Art, according to the imposition of the name, has first of all to do with making *material* artifacts out of parts of the natural world. But we

[4] J. Lukasiewicz, *Aristotle's Syllogistic*, 2nd ed. enlarged, Oxford, 1957, p. 12.

[5] *Ibid.*, p. 14. Lukasiewicz is most insistent on this point, saying earlier that "Aristotle knows with an intuitive sureness what belongs to logic, and among the logical problems treated by him there is no problem connected with a psychical phenomenon such as thinking" (p. 13).

One wonders if Lukasiewicz has sufficiently considered Aristotle's own words in the *Posterior Analytics* A 10, 76b 24-25: ". . . all syllogism, and therefore *a fortiori* demonstration, is addressed not to the spoken word, but to the discourse within the soul . . ." (Oxford translation).

[6] St. Thomas Aquinas *In Analytica Posteriora I*, Proem., n. 2: ". . . est circa ipsum actum rationis sicut circa propriam materiam."

[7] Jacques Maritain, *Formal Logic* (New York: Sheed & Ward, 1946), p. 1.

also speak of arts which make a product in the intellect itself, a construction of knowledge. Such arts we call liberal arts.

All scientific knowledge [8] in the human intellect is the product of a liberal art, the art of logic. We understand reality in each of its domains through a multiplicity of knowledge-acts. In order to achieve as perfect or as scientific a knowledge as possible of any domain of reality, this multiplicity of knowledge-acts must be incorporated into a systematic structure.

This structure can be viewed from two aspects: it has a content and an *order*. By a set of (logical) relations, the content is set into an order. The content itself is either abstracted immediately from reality or constructed from elements ultimately derived from reality. But we are not concerned here with the *abstraction* or with the logical art of *constructing* content in various sciences, such as physics. Our concern is with the *order* of the content, whether this content in itself be simply abstracted or constructed.

The order of a science does not come wholly from reality. It is as such an attribute of our knowledge, made by the intellect itself, which seeks to relate, to unify the manifold of content coming to it from reality. Reality itself strikes us often in a very haphazard way; this is so much so that even when we attempt to make our pursuit of knowledge as methodical as possible, reality still " takes us by surprise." Consider, for example, the many " accidental " discoveries in the field of the positive sciences. The same can also be said for philosophical " intuitions." But this haphazard influx of content to the intellect is organized by the intellect and also referred to the " apperceptive mass " already present in the intellect.

Thus there is some validity in the Kantian notion of the intellect as unifying and relating a manifold, even when we consider the over-all life of the intellect and not merely its behaviour in the phenomenal sciences. But it is not a sense manifold that we speak of; it is a manifold of intelligible

[8] My use of the term " science " will be much broader than the Aristotelian use. The term will here apply to any systematized knowledge.

content. Furthermore, the relations employed in this unification are not the natural apparatus of the intellect; for relations do not exist without relata. They are the fruit of the spontaneous activity of the unifying intellect in response to a multiplicity of intelligible content. Note, however, that this response is always conditioned by the character of the intelligible multiplicity. The relations formed in the intellect are formed in accordance with the exigencies of the subject-matter. For example, the relation of class-inclusion is set up between " man " and " animal " and is not between " man " and " ox." Thus we observe the genesis of logical relations as " logical beings with a foundation in reality," *entia rationis cum fundamento in re.*

If logic as an art is concerned with the construction of such order in knowledge, then it is clear that we are here confronted with a " natural logical art " of the intellect. We are always relating our knowledge in this way, in virtue of the very spontaneity of the intellect itself. We do not suddenly resolve to begin this unification; we have always been working at it. We only one day note that it is going on, and on that day the reflective " science " of logic is born in us. Note, moreover, that this is true, not only as regards thought-processes in general, but also as regards the thought-processes of particular sciences. We do not come to study the logic of physics until after physics is already a going concern; to attempt to reflect on the logic of physics before physics exists would be impossible. Moreover, we have no *a priori* guarantee that in unveiling new aspects of reality we shall employ all the same logical relations as in some other sciences, since the relations employed are always made in accordance with the demands of the content.

We have already seen historical examples of the evolution of entirely new logical structures in new sciences. The logical relations characteristic of the modern sciences of phenomena are not those of the *Posterior Analytics* of Aristotle. The structure of metaphysical science is not at all that of the philosophy of nature.

Finally, logic, as the " natural art " of reason, also manifests

itself in the discourse from the already related actual intelligible multiplicity to what is *virtually* contained in it. This discourse takes place precisely in virtue of those relations which the intellect has already established. The most commonly cited example of such discourse is the categorical syllogism. In such discourse we are not moving to the absolutely new; that could only take place by new "insight" or belief. Rather, we are simply drawing out the "implications" of what we already know.

III. Logic as the "Reflective Science" of Reason

Once the reason, by its natural spontaneity, has begun to relate truth to truth, and to discourse from one set of relations to another set—that is, once the reason has begun to make an order among its acts—the *science* of logic may begin. The object of this science is precisely "the order which the intellect makes among its intentions." In this science, three levels of knowledge may be distinguished: of the relation, of the law, and of rule.[9]

At the first level, we consider the logical relation. The logical relation to be considered is either constructed from simpler logical relations (as the scholastic "*a*" from affirmation and extension) by a series of logical operations, or abstracted from concrete, discursive processes. This does not mean that logical relations are ever seen in complete isolation, since they cannot be understood apart from relata. The logical relation is always discovered in the context of the logical law. The logical law, as abstracted from any concrete embodiment in human discourse, is a complex proposition relating variables through logical relations, and divided into two parts separated by an implication. For the variables, appropriate content can be substituted. Such logical forms (laws) are best seen when expressed in an artificial symbolism such as that employed by the modern mathematical logicians. Examples might be some

[9] This breakdown of the structure of logic is not usually made by Thomists. I am utilizing it, however, in order to better elucidate the Thomistic logic—if not with respect to its already achieved actuality, then with respect to its unfulfilled potentialities.

fundamental laws of material implication [10] (in the notation of the *Principia*):

$$q. \supset .p \supset q$$
$$\sim p. \supset .p \supset q$$
$$p. \sim q. \supset . \sim (p \supset q)$$

But extremely complex logical laws may be abstracted from concrete discourse, or constructed by the logician. Many relations may enter into the constitution of a single law. The laws underlying each of the moods of the traditional categorical syllogism are examples of slightly more complex forms. Using "S, M, P," "a, e, i, o," and the "dot" notation, together with an arrow for *strict implication* (since the traditional categorical syllogism uses strict implication), we may write (1) BARBARA and (2) CELARENT as follows:

$$(1)\ \mathrm{MaP}\ .\ \mathrm{SaM}\ .\rightarrow .\ \mathrm{SaP}$$
$$(2)\ \mathrm{MeP}\ .\ \mathrm{SaM}\ .\rightarrow .\ \mathrm{SeP}$$

At the third level of logical thought, various particular rules governing the concrete application of logical laws are evolved. Of this kind are the traditional eight rules of the categorical syllogism.

It should be clear that an order obtains among these three levels of logical thought. All too often, contemporary scholastic logicians move about from one to another without clear awareness of the differences. Very often scholastic logic is studied on the level of the rules without adequate attention to clear disengagement of the laws.

Quite often the relations of the Aristotelian categorical syllogism are given a privileged place in formal logic; this privileged place only belongs to them by right when we consider philosophical matter.[11] General formal logic deals with logical

[10] Note that "material implication" here is taken as a logical relation existing in the intellect.

[11] Of course, I am referring to "philosophical matter" as the Thomist sees it, as content in which necessary relations between subject and predicate are the constant goal and frequent attainment of the philosopher.

relations in complete independence of determinate matter. The only relations which are in any way "privileged" in general formal logic are those which are taken as primitive terms in the construction of more complex relations.

Modern logicians tend to deny anything except arbitrary privilege to given logical relations. But from the viewpoint of Thomistic formal logic, the privileged status of affirmation (and negation) and of extension seems to be clear. This is also understood by Aristotle in the *Prior Analytics*, A 1, where he lays down the principle of the *dictum de omni et nullo* as necessarily presupposed to further analysis of discourse.

But the discourse to be analyzed in logic is most certainly not just that of the categorical syllogism, nor even of hypotheticals and modals as well. It is not restricted to the logic of terms. There is also a discourse, unknown to Aristotle although known to the ancient Stoics, through the logic of propositions. But here again, affirmation and negation (though not extension) are primitive relations, together with one other relation (out of many possible choices). Here a series of relations between affirmations and negations is constructed, a series of relations in no way depending on the term-structure of propositions. We have already seen such a relation in "material implication."

But once we see the possibility of constructing logical relations—by a series of logical operations—from more primitive logical relations, the way to the further development of logical science becomes evident. First, logical relations in simple laws are abstracted from concrete human discourse; the more complex laws containing these relations are evolved, and the corresponding logical rules are stated. Second, more complex logical relations are constructed and the corresponding laws and rules developed. Thus it is a necessary task of a truly scientific logic to construct axiomatic systems, but the most fundamental axioms of all logic are not chosen arbitrarily.

The tendency of modern logic to construct relations and laws is not at all contrary to the nature of Thomistic logic. On the contrary, it even follows from the nature of this logic.

Unfortunately, many modern logicians do not see that the "science of human reason" after all does concern the *act of the human reason* and is properly grounded on an abstractive intuition of logical relations *in the intellect.* If logic is truly the "science of reason," then its most primitive terms will be the most fundamental of the actual relations of act to act in human discourse.

At the same time, certain Thomists, desirous of a return to "true logic," forsake the acquisitions of constructive modern logic. They do not see that the human intellect must elaborate for itself more and more complex logical relations as its grasp of reality becomes more and more rich, especially in the complex, constructive sciences of nature. Nor do they see that this same human intellect has evolved types of relation appropriate to each science, that the relations employed in modern physics are not at all those of the "ontological" type of science. The attempt to reduce all logic to that of the categorical syllogism can only raise a monolithic obstacle to progress in our understanding of logic.

IV. Logic as the "Scientific Art" of Reason

When logic has been constituted as a science, it perfects the spontaneous art of the reason. This perfection is of two kinds. First, scientific logic habitually possessed stands as a constant critic of the *spontaneous* movement of the reason of the possessor and of others. Second, its cultivation renders more intense the *habit* of discoursing well. It should be clear that the intellect, without the "scientific art" of logic, would always lack the fullest perfection of science in whatever area it should discourse. Science might be, and often is, achieved without this "scientific art"; but the perfection of science is not achieved without it.

V. Summary

Human reason, by its "natural art" tends to unify its acquired, intelligible multiplicity into systematic structures,

and to extract the implications of these structures. Thus the intellect makes *sciences*. This "natural art" is called *logic*. The Thomistic logician reflects on the working of this art to establish the foundations of "scientific logic." Scientific logic in turn perfects the natural art of reason. The science of logic is thus sought both for its own sake and for the sake of the art.

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ST. AUGUSTINE: TIME AND ETERNITY

Metaphysics

> For that very time hadst thou made; nor could there any times pass over, before thou hadst made times. But if before heaven and earth there were no time, why is it then demanded, what thou didst? For there was no *then* whenas there was no time. XI, 13.

IN this quotation from the *Confessions,* Augustine clearly states the fact of the "creatureliness" of time. The *beginning* is the beginning of time. Creation was 'at once,' not itself *in* time, but rather it came with time.[1]

Time, then, is clearly connected with the created order of change and motion. Yet, since God's Being is one of "eternality," the first and perhaps primary problem is posed concerning the relation of the world of change and time to the realm of the Abiding and Changeless. Rejection of the emanation theory of creation, and the realization that time (since it is of the order of change as alteration) is of the order of non-being, mean that the investigation of time must involve the ultimate problem of the relation of non-being to being.[2]

Again, given the *ens realissimum* structure of being and the axiom that all creation is essentially good,[3] evil must therefore be relegated to the order of non-being. The problem of the relation of Ultimate Good to evil becomes also a part of the investigation of time and eternity. In the Christian tradition, moreover, the concepts of time and eternity further entail the dialectical relationships of creation, history, and salvation.

[1] St. Augustine, *De Genesi contra Manichaeos,* in *Opera Omnia,* ed. Monachi O.S.B. (Paris: Gaume Fratres Bibilopolas, 1836), I, 1077, part 4: Fecit enim Deus omne simul cum omnibus creaturis temporalibus. . . .

[2] St. Augustine, *Enchiridion,* c. X, in *Basic Writings of Saint Augustine* (New York: Random House, 1948), I, 662.

[3] *Ibid.,* St. Augustine, *Faith and the Creed,* c. II, 2, in *Augustine: Earlier Writings,* trans. J. H. S. Burleigh (Philadelphia: Westminster Press, 1953), pp. 354-5.

These then: the relation of the Unchangeable to the changeable, of Being to non-being, and of Salvation to history, formulate the metaphysical background and structure in the problem of time and eternity. With direct relevance to man, the creature in whom time *per se* is measured and from whom it has its point of reference and meaning, the time-eternity question becomes one of psychological and spiritual dimensions.

I present this investigation of time and eternity by first delineating it in such broad and abstract metaphysical terminology, because I have concluded that in the Augustinian philosophy human existence and experience are part of and must be understood in the light of the entirety and structure of his ontology.

God created the world of creatures, and hence is prior to it. Since time came with creation, He is prior to it not by a temporal pre-endlessness of time, but by his eternity; [4] that is, by virtue of his ontological priority as unchanging Being in "the sublimity of everpresent eternity."

"*In principio fecit Deus coelum et terram*"; there are two created orders which, according to Augustine, are beyond time: heaven and earth.[5] That is, the creature *above* time is "some intellectual creature" of form and contemplation which, although it is mutable, is above time by cleaving to and participating in God; thereby it renders itself "beyond all rolling interchange of times." The second order of creation beyond time is *sub*-temporal; this is the earth (corporeal creation) which is chaotic and without complete form and order. There "does nothing come and go." [6]

From this it can be concluded that time is of an ontologically intermediate order between celestial duration, an abiding perpetuity beyond time categories, and material sub-temporality, which is not yet of the order of succession, but merely of inchoate flux. The objective *possibility* of time is established

[4] St. Augustine, *Confessions*, Bk. XI, 13, trans. W. Watts (New York: Macmillan, 1912), II, 235-6 *passim*.

[5] St. Augustine, *De Genesi contra Manichaeos*, *op. cit.*, I, 1047-9 *passim*.

[6] St. Augustine, *Confessions*, Bk. XII, 19, *op. cit.*, p. 303; Bk. XIII, 15, p. 317

through an ontological status which participates both in the order of being (form) and non-being. The psychological *actuality* of time is a *distentio* which measures corporeal succession through a spiritual participation in the priority of Being; this enables it to be somehow autonomous from spatial categories, and from complete flux.[7]

The world had a beginning as did time itself. The processes of the created world are real; novel and decisive events do occur in history. History is time filled with meaning. At this point, the Augustinian doctrine was unique in its contemporary milieu. Augustine, in defense of Christian dogma, dismissed the classic cyclic concepts of time as determined by the revolution of the firmaments, as propounded by the Aristotelian, Stoic, and Platonic traditions.[8] Certain events have a once-for-all character, for example, the whole Incarnation-Redemption drama; and so history is linear, proceeding in a straight line from the beginning until the end beyond the *saeculum*.

Upon the dependent yet autonomous created order of things hinges the fact that time is a necessary vehicle and condition for man of value, freedom, and obligation. A purely naturalistic interpretation of time and history seems therefore impossible.

The Reality of Time: Adam as '*Posse non Peccare*'

> Man. . . . He created in such a sort, that if he remained in subjection to his Creator as his rightful Lord, . . . he should pass into the company of the angels, and without the intervention of death, a blessed and endless immortality.[9]

From this quotation, we can ascertain Adam's state as *posse non peccare* with relationship to time. He existed in time, but not in the same sense as after the fall. That is, the before and after in the conscious continuity of measured time was not

[7] Jean Guitton, *Le Temps et L'éternité dans la philosophie de Plotin et de St. Augustine* (Paris: 1938), pp. 140 ff.

[8] Erich Frank, *Philosophical Understanding and Religious Truth* (New York: Oxford University Press, 1945), pp. 68-9.

[9] St. Augustine, *City of God*, Bk. XII, 21, in *Basic Writings of Saint Augustine*, II, 204.

conditioned by the radical confrontation of death. In the fall, Adam suffered death and the loss of the *posse non peccare* as a punishment for his disobedience. Adam forsook God, turning from the ontological source and power of his soul's stability to death and separation. Created man was good, as are all God's creations; but as he was created *ex nihilo,* he carried in his derived being the stigma of mutability.[10]

In Augustine, there is no special phenomenology of Adam's conscious experience with relationship to time, but from the structure of his metaphysical presuppositions, certain conclusions can be drawn concerning this. The mutability of Adam's pre-fall existence implied movement, and therefore the consciousness of change, but not in a radical sense of alteration. The movement given to self-consciousness (a prerequisite of free-will) designated the *before* and *after* of time, but as a temporal category which, due to an enduring spiritual participation in the Immutable (state of grace), was not yet conditioned by the knowledge of the necessary extinction implied in finitude: death. The perpetual youth of the first man was one of interiority, of grace.

After the fall, the possibility of immortal duration was lost; inevitable death for all men defined a radical contingency, and the meaning or *quality* of temporality was changed.[11] On this existential level, certain spiritual accomplishments were *ipso facto* impossible (*posse non peccare*); and the nadir of the true problem is epitomized in the splayed aura of human consciousness and activity.[12] Creatureliness involves death in and through sin.

Man as 'Non Posse non Peccare'

To fallen man, in the instability of his present orientation belongs a derived freedom. His spiritual consciousness pre-

[10] St. Augustine, *On True Religion,* XX, 38, in *Augustine: Earlier Writings,* p. 243; XXII, 42, p. 245.

[11] St. Augustine, *City of God,* Bk. XIII, 13, *op. cit.,* p. 220; 15, p. 221.

[12] *Ibid.,* Bk. XII, 21, p. 204; pp. 222 ff.

supposes a "lack" of being at its very core. It suffers from the anguish of ever imminent death as its logical end.

When Augustine turned to the psychological structure or analysis of the *whatness* of time, he immediately discovered what seemed to be a paradox. That is, we speak of long and short times in terms of past and future, neither of which *exists*. Only the present moment *is*, and it is neither long or subject to abridgement. We seem, therefore, to be measuring the non-existent when we measure time; or what do we actually measure? One cannot place the reality of the past in the past-in-itself, nor of the future in the future-itself. Only the present is real *per se*.[13]

There are not, then, three times; rather, there are three dimensions of the present-now. These dimensions are the dynamic tensions of time, and not a series of static and real stretched-out moments in succession, which one merely "goes through." The past is-no-longer, and the future is-not-yet; therefore, they draw whatever reality they possess from the present, of which they are the ontological negations. The past and present *per se* do not put us in possession of the things themselves (*res ipsae*); rather we are stimulated into a mode of remembrance or anticipation toward them.[14]

Time is involved with presence, but the present is without extension; how then do we measure through and by it? This leads inevitably to the idea that we measure what is not (past and future) by what *is*, but is spaceless and therefore, not itself subject to measurement. Augustine presses on, rejecting the classic idea of time as the measure of the revolutions of the heavenly bodies in the firmament, and states: "I perceive time, therefore, to be a certain stretching," *esse distentionem*.[15] The essence of time is ultimately relational. In short, time cannot be reduced to or defined by the motions of bodies, because bodies also stand still in time. Time and motion are

[13] *St. Augustine, Confessions*, Bk. XI, 14, 15, *op. cit.*, pp. 238-9; Bk. XI, 18, pp. 247-251 *passim*.

[14] *Ibid.*, Bk. XI, 18, p. 249.

[15] *Ibid.*, Bk. XI, 23, p. 263.

related yet somehow distinct. We do not measure long by long, or empty interval by interval of movement, for these are spatial units.[16] Since motions, of which time is the measure, as well as intervals are non-existent in the sense of their passing away, the mind itself measures time through and by the nexus of related impressions left in the soul. The " soul " is a vital principle able to distend itself to the non-existent past and future, and to hold them in the *attentio* of the present.

The present-now, since it is the only existent point in the flux of experience, is basic to the meaning and measure of time. The *distentio* or *attentio* of the soul through the unextended present, makes possible the reconciliation of the individual presents into an extended, ordered, and irreversible succession: into time.

" Now " is the boundary of time; it is the boundary of anticipation and memory, providing time with its continuity. The *now* is actually not a category of time *per se*; it is always the same, yet different, or it would be eternity (*nunc stans*). The now tends to non-existence.[17]

Time is in the soul, but the soul is, in some manner, not in time. Its present attention *qua* now is always present attention, and never memory or expectation. It is in the present-now *distentio* that the soul can be said to be somehow beyond time. It would seem to designate the point of vitality or power in the soul which affords continuity of activity; it is, therefore, of vital importance to the drama of spiritual life.

This dynamic yet punctual present is an empty presence *in se*; it is like a point of negation, a presence comprised of absence. Our present manifests itself as an *internal negation* which constitutes, by its ontological negating of being (duration), the " moving line " between past and future. The present itself passes, but the *attentio* endures. *Et tamen perdurat attentio.*

The *distentio* of the soul furnishes the vital power for the

[16] *Ibid.*, Bk. 24, p. 265; cf. Bk. 26, p. 269.
[17] *Ibid.*, Bk. XI, 15, p. 243.

synthesizing of the punctual-negating present, as that which gives meaning to the succession of time. What then is the condition for the consciousness of duration? The Augustinian definition of *memory* comprises an important aspect of the meaning and sense of time. It is the condition of passage from the *anima* to the *mens*, or comprehension of the Eternal Ideas and Beatitude.[18]

The soul is active by principle, but the memory establishes the actuality of meaningful duration for man; it gives the present-now its intelligibility. Memory as duration is the very condition of consciousness and conceptualization. That is, to think one must be able to sustain subject and predicate together in consciousness. In this sense, memory is also the necessary condition of personhood and individuality.

Memory too is tempered by its ontic " participation " in non-being, as it is somehow an absence; yet it is also a presence of this absence. It is rather clear that Augustine's theory of memory is conceptually analogous to Plato's doctrine of recollection; but the former is devoid of the adjunct of pre-existence, and is placed in a Christian complex.[19]

In the Augustinian epistemology, one must somehow know a thing in order to love and seek it; just as willing is already in some fashion already a knowing. Memory is the bearer of this knowledge. Augustine necessarily insists upon the ontological structure of truth and falsity, which becomes interpreted as the doctrine of illumination in his epistemology.[20] This frames the understanding of the memory as the realm of conscious experience which can " hold " somehow the " *vestigia* " of the Immutable, and present as " presence " the " light," the categories necessary for understanding or wisdom.

The spiritual significance of the memory is apparent. " Memory " of God places into the nexus of time a conscious-

[18] Étienne Gilson, *Introduction à l'Etude de St. Augustin* (Paris: Librairie Philosophique, 1943), pp. 57 ff.

[19] St. Augustine, *Soliloquies*, Bk. I, 8, 15, in *Augustine: Earlier Writings*, p. 32.

[20] *St. Augustine, The Teacher*, c. 11 and c. 14, in *Ancient Christian Writers*, trans. J. F. Colleran (Westminster, Md.: The Newman Press, 1950), pp. 175-177; *ibid., passim*, esp. p. 178.

ness of the Immutable, and therefore of Good and Beatitude. Thus God has a " history " in us, a genuine before-and-after of conscious experience, giving an enduring value and reality to the moment.

Memory is able to retain and reproduce to consciousness impressions received from external sensations. Thus it becomes the condition for the measurement of the intervals of space and time. Memory is the *conditio sine qua non* of the personality itself:

> Yet, lo, I am unable to comprehend the force of mine own memory; no, 'though I cannot so much as call myself myself without it. (*Ipsum me non dicam praeter illam*).[21]

In the measure and meaning of time, memory is not only the soul's condition of image and recall, but also its possibility of anticipation or *expectatio*.[22] It is only by and through the past that we can plan the future; for the present expectation of future could have no experiential relevance were it not for the possibility of meaning structured as extrapolation from the past. Yet memory, while dynamic, is not foreknowledge; and free will is certainly not destroyed in choice.

The very being of man seems stretched out into past and future. Time is not simply a psychological category, but rather a dimension with moral and spiritual implications. To waste or destroy the possibilities met in time, is to destroy one's very being. " We make our times; such as we *are*, such are our times." [23]

Having discussed time from its psychological aspect, and touched upon its spiritual dimensions, it becomes apparent that time *qua* time becomes a vector both for hope and despair. Fallen man in his finitude (after the *first* death) experiences his anxious and distended existence as limitation. He knows,

[21] St. Augustine, *On the Trinity*, Bk. X, 21, in *Basic Writings of Saint Augustine*, II, 866; Gilson, *op. cit.*, p. 139.

[22] St. Augustine, *ibid.*, Bk. XV, 7, 13.

[23] St. Augustine, *Tractates on the Gospel according to St. John*, LXXXVI, 8, in *Nicene and Post Nicene Fathers* (New York: Christian Literature Assoc., 1888), VII, 352.

however, that this present-time orientation is the only possible vehicle of accomplishment and salvation, or of ultimate damnation (as the *second* death).

> Behold my life is a distraction, and thy right hand hath taken hold of me (through) the Mediator betwixt thee that art but one, and us that are many, drawn many ways by many things.[24]

Secular and sacred history coincide, both in the individual and in the larger social area. Augustine states:

> Do not go abroad. Return within yourself. In the inward man dwells truth. If you find that you are by nature mutable, transcend yourself even as a reasoning soul. . . . So the inward man is reborn, and the outward man decays day by day.[25]

So it is that through the order of "natural" time and sin our days are old; but by the order of Grace through Jesus Christ, our days are transformed by an assurance that they will never fade. The old and the new man, natural and "saved" time, are of two ontological orders. These are necessarily intermingled on the existential level; and lend an air of tragic ambiguity to both individual and social history. There is a sense in which one is not *in* time, but rather is formatively *existing time.*

Time and Eternity

> . . . Spiritual ages are marked not according to years, but according to his spiritual advance. . . . The sixth stage is complete transformation into life eternal, a total forgetfulness of temporary life. . . . As the end of the "old man" is death, so the end of the "new man" is eternal life.[26]

The Augustinian concept of time and eternity is thoroughly Christian in its orientation and insistence that history is real, the vehicle of value and salvation. Through Christ as Mediator, God once more acted in and through history restoring to man a certain additional degree of freedom and possibility through

[24] St. Augustine, *Confessions,* Bk. XI, 29, *op. cit.,* p. 279.
[25] St. Augustine, *On True Religion,* XXIX, 72, *op. cit.,* pp. 262-3.
[26] *Ibid.,* XXVI, 49, p. 249.

grace. *Eternal* value enters the sphere of *temporal* existence in the form of a determining love of infinite possibility; all past becomes not merely the " before," but is spiritualized as is the future, in terms of potentiality unto eternal life. History is *moral* history, as it indicates the presence of abidingness: of Love. Time is soteriological. To the individual, the Abiding tempering the transient imposes the possibility that one be " not distracted, but attracted "; that is, that the *distentio* of the soul becomes transformed into an *intentio*.[27]

The only alliance between the temporal *esse* and the eternal *Esse* must be spiritual. That time, as before-and-after, is somehow held in eternity is a mystery; and that the eternal is somehow in time is a mystery of faith and hope. That dimension which can, and ultimately does ally the two realms, is love (*agape*). As it is, the spiritual and unifying ground and power of all finite existence, and the teleological suspension of *distentio* for *intentio* can only be realized through Love or Grace for man, *insofar as he is present to God.*[28]

Psychological time *per se* does not change its horizontal aspect for the individual of faith, but its meaning becomes numinous. Love gives it a vertical dimension, the latter being the condition for all genuine *progress*, in the axiological sense of the term.

Augustine's eschatology is a delicate balance of the present *expectatio futuri* and the *intentio aeternitatis*, which are both experienced in the *now* of time. This dynamic tension of time and eternity does not destroy the value of the present moment *qua* moment. For eternity is horizontally in the future, but men are compelled to realize and experience this in a vertical now-transcendence, as complete distraction is replaced with purposiveness.

[27] St. Augustine, *Confessions, loc. cit.*

[28] St. Augustine, *The Usefulness of Belief*, esp. XXVII-XXXI, in *Augustine, Earlier Writings*, pp. 419-421, *passim.*

Eternity

As we have seen, it was really from the ontological standpoint of eternity (in God) that Augustine commenced his phenomenology of time. The doctrine of creation served to define the incommensurability of time and eternity, based upon the metaphysical structure of mutability versus Immutability.[29]

Eternity is not composed of a series or succession of events without either commencement or end; nor is eternity time infinitely prolonged. The latter description is a spatial image, and God ontologically precedes both space and time. God's eternity is like an eternal day; thus it is conceived as an *eternal present,* not mobile and elusive as is man's, but as Abidingness.

> . . . Thou art still the same and thy years shall not fail. . . . Thy years are one day; and thy day is not every day, but today. . . . Thy day is eternity.[30]

Yet there is no possibility of confusion between man's temporal present and the divine present. The divine present of eternity *embraces and transcends* time, not in the sense of nullifying the temporal before-and-after, but in the ontological sense of sustaining it in the transcendent power which maintains it as a spiritual *Now.*

All things are present to God (*totum simul*) in the divine presence. While for man, the possibility of real presence (for " duration " here is axiological) turns precisely upon his *being present to God* in a very real way.

The beginning of time came with creation; so the end of time *qua* time (as the end of the world) is actually coincident with the " beginning " of eternity (as related to time). From man's viewpoint, the situation is: eternity → time → a new eternity. The judgment of eternal reward or damnation is now " future,"

[29] St. Augustine, *On the Spirit and the Letter,* cc. 36-37, in *Basic Writings of Saint Augustine,* I, 488-9.

[30] St. Augustine, *Confessions,* Bk. XI, 12, *passim, op. cit.,* 233-5; *ibid.,* 13, hodiernus aeternitas, p. 237.

and will be coincident with the end of our times, the validity of which depends upon the " past " deeds of existence. About the futurity and eternity of this judgment Augustine is adamant.[31]

But it must be understood that such words as " before " and " after " time are essentially figures of speech only; while such a schema as : eternity → creation-time → a new eternity, is graphically descriptive of the linear progression of history in Augustinian concepts, it is merely a symbolic and spatial schematization utilized here. Eternity stands " over " time; yet it stands also at the " end " of time. To man, this means that each act in history has a nexus of relationship to the other acts in time, as well as a relationship to the ground from which it is derived and sustained. Christian concern in-history is infinite concern. The meaningfulness of life is everlastingly insured through the Incarnation.[32]

An acceptance of the Augustinian doctrine of time and eternity is contingent upon agreement with his metaphysics, or the dialectical interpretation of the categories of being and non-being (meontic). The concept of *participation* both saves and blurs this approach. It helps to explain the " howness " of time and eternity schematically, but cannot ultimately touch the " whatness." Augustine did not hold the Aristotelian explanation of *change* as the reduction of potentiality to actuality (for he held no doctrine of the substratum of formless matter), so the dynamism of his metaphysics seems to rest solely upon the dialectic of being and *meontic* non-being; and the latter has *no* ontological status *per se,* but does effect changes therein.

Augustine's analysis of time has absolute implications for the theory of evil. Man, in his state of essential limitation, is under the metaphysically grounded necessity of experiencing the before and after in terms of present experience. Because, therefore, of his ontological " heritage," the basis of conscious

[31] St. Augustine, *City of God,* Bk. XXI, 9, *op. cit.,* pp. 578-9; Bk. XXI, 25, pp. 598-9; Bk. XXI, 23, p. 593.

[32] *Ibid.,* Bk. XX, 5, pp. 515-516.

and unconscious acts is the fact of time-in-consciousness and/or consciousness-in-time. Here is an area of speculation which goes behind social and anthropological investigations of man, and approaches the very heart of the structure of human existence. Good and evil are existential categories and belong to the province of metaphysics.

In summary, the uniquely Christian and theological tone of Augustine's concept of time and eternity is apparent in every crucial point of his writing. The unity of creation *ex nihilo* with time; the inseparability of the *ens realissimum* metaphysical structure under which the understanding of time and eternity is subsumed; the rejection of the classic cyclic conceptions for the linear-historical structure in which the Incarnation and Salvation of cosmic significance are accomplished; the mélange of the psychological and spiritual, as well as of their ontological dimensions—all of these are indicative of the manner in which faith in revelation permeates Augustine's methodology.[33]

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[33] St. Augustine, *On the Trinity*, Bk. IV, 1, *op. cit.*, p. 729; 2, p. 731; 9, p. 750. H. Hausheer, "St. Augustine's Concept of Time," *Philosophical Review*, XXXVI (1937), 509-10.

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BOOK REVIEWS

Le Dilemme du Concours Divin. Par Louis Rasolo, S.J. (Roma: Anal. Greg., vol. 80). Pp. 134. $2.25.

After four centuries of disputation the debate between Molinists and Thomists of another persuasion still continues lively as ever. In spite of basic agreement on certain facts and principles, the opposing schools of thought remain far apart in their theoretical explanations and show few signs of rapprochement. The present volume has the merit of simplifying and clarifying the discussion by considering the divine *concursus* from a philosophical point of view, abstracting from theological difficulties concerning grace and predestination. This in no way lessens the value or interest of the work, because the philosophical questions are truly basic, and the principles for their solution can be extended and applied also to theological problems. Here the manner of the divine premotion is studied in the light of the distinction between essence and existence.

In his introductory chapter the author considers two preliminary objections which have been made against Molinism, one regarding its method and the other regarding its fidelity to St. Thomas. The method of Molinism has been judged by some other Thomists to be eclectic and apologetic rather than philosophic. These critics say that it is a way to reconcile human liberty with divine foreknowledge, and to refute the errors of Protestants in these matters, by proposing a notion of liberty which is descriptive and popular, not philosophical, and then proceeding to dissect the free action in order to decide which part of it is from God and which part from man. Furthermore, not only the method but also the doctrine of Molinism is said to be far from the relevant principles and conclusions of St. Thomas.

In reply the author asserts points of agreement and disagreement. All reasoning begins with facts and principles and a question to be solved. Catholics generally agree in admitting the primacy of God and the contingency of the creature. Both Molinists and other Thomists agree also on the real distinction between potency and act, essence and existence. The facts of human freedom and divine foreknowledge raise a genuine problem as to how these can be reconciled, and this question must be solved in the light of the principle of causality. If God determines the actions of creatures, we may still ask whether He predetermines them physically or only morally and indifferently. As for fidelity to St. Thomas, when he speaks of infallible predetermination does he mean that this is physical or moral? Molinists hold that the autodetermination of the will is incompatible with physical predetermination, and so the divine premotion must

be indifferent, not predetermining. For this reason also they admit a special division of the divine knowledge, i. e., *scientia media*, by which God foreknows the free actions of creatures under any and all circumstances. How this position is related to the doctrine of St. Thomas cannot be determined by citing texts one way or the other, but must be decided in view of the proper principles. The author proposes to show that Molinism is based on sound metaphysical foundations and is genuinely Thomistic.

The essential data of our problem are simple: the creature truly is and acts, but with dependence upon God. The difficulty is that these data seem irreconcilable. If the creature is totally dependent upon God, then everything is from God, both being and action. But if the creature is a cause in any real sense it must have some independence and primacy, and something in the effect must really come from the creature.

In the face of this difficulty Malebranche preferred to deny the causality of creatures, whereas Durandus had denied the immediate causality of God in the actions of creatures. Molinists and other Thomists alike hold that effects come both from God and from created causes as the fruit of a collaboration or *concursus*. In the actions and effects of creatures these thinkers generally acknowledge both reality and specification, that is, *esse* and determination, or existence and essence. The creature really acts, but it remains to be seen how far its causality extends, whether to the *esse* and the determination of the effect or only to one or the other.

Molina himself held that God alone produces the *esse*, whereas the creature alone produces the determination of the effect. The one is not produced without the other, and each is produced by its own cause: *non secus ac duo trahentes navim*. The author, along with many Molinists, thinks that this view of Molina does not sufficiently safeguard the unity of the effect. If the effect is one, the action by which it is produced must also be one. One action can come from many causes only if the causes are subordinated to each other in such a way that the proximate cause acts in virtue of the others and as if it were alone. Far from explaining created causality, Molina's view makes this causality impossible because the creature really does nothing, since the determination of the effect is nothing apart from the *esse* which comes only from God.

Opposed to the theory of *simultaneous concursus* is that of physical premotion. According to this theory the created cause produces both the *esse* and the determination of its effect, but it produces *esse* as the instrument of God, inasmuch as it is moved or premoved by God and so passes from potency to act. Even the actions of creatures, as they proceed from the created agent, comprise both *esse* and determination, and these are distinct from the substantial being of the cause. *Esse* as such cannot come from the created cause but must be attributed to God. Because *esse* transcends all limits and all categories, it is the most universal effect and so requires the most universal cause.

Molinists maintain that the action of the created cause is not a reality intermediate between the cause and its effect, and likewise that the divine motion is not something intermediate between the First Cause and the created cause or its action. Such a reality would itself be a created cause by which the agent produces its effect, and as such it would need another action or motion, and this yet another. The action of the cause is really identical with the effect, but it is called action inasmuch as it is from the agent, and effect as it is in the patient. God's action in the creature is really identical with the motion of the creature, that is, the transition from potency to act, or from not acting to acting. Premotion does not imply a priority of time, nor an intermediate reality, but a causal priority or preeminence of the cause over the effect. God's motion touches the effect immediately, because it is identical with the action of the creature. But God attains the effect more profoundly, because He produces it in regard to its *esse*. Thus God is present to His creatures *immediatione virtutis*, but the author denies that God is present *immediatione suppositi*.

Although many Thomists are convinced that the divine causality extends not only to the *esse* of created actions but also to their essential determinations, at least under certain aspects, yet Molinists are of the opinion that physical predetermination by God would take away the proper causality of creatures and would destroy human liberty. Liberty is the ability to determine oneself. Physical predetermination would violate the free will, because if man is determined by God, then he does not determine himself. Moreover, if man were predetermined by the divine motion he would lose the initiative of his choice, and with initiative gone, responsibility also would disappear. God alone would be responsible for good as well as for evil.

On their part, Molinists hold that only *esse* exceeds the powers of the creature. Under the divine motion created causes can and do act as instruments of God to produce *esse*, but in doing so they also produce an effect proper to themselves alone. Whatever of movement there is in created action tends to *esse*, and all increase of being which action brings comes from *esse*. Hence with the help of an indifferent motion from God the created cause can determine for itself the nature of its action within the limits of its own power. This indifferent motion gives *esse* to the action of the creature, but does not predetermine the action. A motion of this kind suffices for created action, and has the advantage of respecting liberty. On these points all Molinists are agreed. The creature is the unique cause of the determination of its action and effect. God is indeed the First Cause, but creatures are also real causes. Created causes need to be premoved by God, and in virtue of this motion they act as instrumental causes to produce *esse*. But they are principal causes in regard to the determination of their effects, and this is their proper causality, without which they would be in vain. Proper causality comes exclusively from the proper form or power of the dependent cause, without any other motion or determination. The

theory of physical predetermination does not allow for such a proper effect not dependent upon a higher cause, and so, Molinists assert, it takes away the proper causality of the creature. Furthermore, it would require that God's predetermination would be the cause of evil as well as of good, because the moral determination of an action is really the same as its physical determination which, according to the theory, is not exclusively from the creature but from God as the predetermining cause.

The author's account of created causality is based on the distinction between potency and act, essence and existence. The creature depends upon God's will to exist. But the essence of the creature, in its constitutive notes, does not depend upon the divine will or action. It is eternal and necessary, although dependent upon God in the order of exemplarity. *Agere sequitur esse.* The *esse* of the created action and effect is from the *esse* of the created cause, which is premoved by God and acts as an instrument of God to produce *esse.* But the determination or essence of the created action is from the determination or essence of the created cause exclusively, and is the proper causality of the created cause. Essence as such has autonomy with respect to the divine will, and does not depend upon God in the line of efficiency but only in the line of exemplarity. This determination is pure limitation. It is not a positive reality apart from the *esse,* and merely limits but does not perfect *esse.* Yet it is effectively and properly produced by the created cause while acting as the instrument of God to produce *esse.*

Here the author seems to neglect the distinction between essence as such and essence as it is in the created effect. Since the world of creatures is not eternal, each individual essence in the real order is neither eternal nor necessary, strictly speaking, but as part of a created effect somehow depends upon God in the line of efficiency as well as in the line of exemplarity.

In his final chapter the author discusses the act of free choice, and considers the question of how an indifferent will can determine itself. He answers that the will is not indifferent to the general good, but is naturally determined and divinely premoved to the good in general. Once in act with respect to the end, the will determines itself with respect to particular goods, which are as means to the end. With the same act it wills that which is for the end as such and the end itself. The determination or specification of the act by the free will is a simple limitation of something transcendent. With indifferent premotion God moves the will toward the good in general. This motion and the willing of good in general is not something less perfect than the willing of a determinate good, but something more perfect, just as *esse* is more perfect than essential determination.

Here we find the ultimate differences between the Molinist theory and theory of physical predetermination. Molinists hold that the transcendence of indifferent motion in the willing of the general good is so complete that

the determination to the particular good adds nothing further, but merely limits the fulness of actuality already possessed. If the will could determine itself once it has been physically predetermined by God, as other Thomists hold, then with greater reason it can determine itself under the transcendent actuality of indifferent motion. Genuine freedom requires a transcendence of this kind. It leaves something for the will to determine for itself which is undetermined by any higher cause, which yet is nothing apart from the *esse*, and merely limits *esse* without adding to the plenitude participated from God. From this point of view physical predetermination is not only useless but also destructive of liberty and subversive of the metaphysical and moral orders. It entails the primacy of determination over transcendence, of essence over *esse* or existence, of man's part over God's part, and makes God the cause of our sins. As a metaphysical theory it is entirely too rational, too analytical. It exhibits what are called the necessary causes of freedom, as if the contingent and free choice could have necessary antecedents, or any proper cause of its determination save only the free will itself, or any other necessity than its own reality, if and when it is.

Thomists of the other persuasion answer that the proper causality of the creature does not require that the creature be the first cause absolutely, but only the first cause in its own order, always dependent upon God for everything that is anything in the line of being and action. Moreover, with St. Thomas himself they refuse to attribute the same effect to both God and creature in such a way that it is partly from God and partly from the creature, but they attribute the whole effect to both causes, although under different aspects. These different aspects in the action or effect are not really distinct from each other, but only virtually distinct. However, they are proportioned to different causes, and the same effect comes from one cause under one aspect and from another cause under a different aspect.

The movement of the will to the good in general is indeed transcendent, but this transcendence is not that of a pure actuality proper to God alone. Rather it is that of a created cause endowed with indifference in regard to particular goods, with respect to which it is potential and capable of further actualization. To will the good in general is not the same as willing a particular good, even though the particular good is chosen in virtue of the general good. In an analogous way our intellectual knowledge of the more universal is prior to distinct intellectual knowledge of the less universal or the particular.

Thus our determination in regard to a particular good brings out something actual which was not actual in the willing of the general good. This determination is made by the will itself in its free choice, and under a certain aspect it is the proper causality of the will. It is produced in virtue of the motion received from God and of willing the general good. Its cause is transcendent not only on the part of the will, whose object is the good

in general, but also on the part of the divine motion. This motion is not a substantial being or cause, but a causality or causal actuation whose function is to stimulate the created cause and elevate it from the order of potency to the order of act so that it can produce its own operation. God's motion does not need another motion or causality to actualize it, any more than heat needs another heat to make it hot. Nevertheless, God's action is continued and concurs in all the actions of all His creatures, according to His mode of acting and ordinarily according to their natures. God's premotion in the free will is an instrumental actuation, and is transcendent in the special sense that it is neither a necessitating nor a fallible or defectible actuation, but a divine causality which gives the mode of genuine freedom or active dominion over the choice to be made, and also infallibly and physically predetermines the choice.

Human freedom does not require a strictly necessary antecedent, other than God as First Cause and the willing of the good in general. But for the free choice certain other antecedents are required with hypothetical necessity, namely, a particular good to be chosen, which must be known as something possible of attainment and desirable, and a physically predetermining but non-necessitating motion from God. This last is required because the willing of a determinate good by the will itself cannot come from mere potency in the will, but must come from God as First Cause and from the will physically predetermined in a co-natural way by God. The whole free act is from God, both its *esse* and its determination, but it comes from God through the creature and under the aspect of being and action, that is, as a created good bearing the likeness or participation of His own divine perfection. The whole free act is also from the will, but not as a mere vital adherence to something ready-made which comes from above. It is a vital action which proceeds from within the will itself, endowed with active dominion over its own act. It does not proceed from an empty or passively indifferent will, nor from a will in act merely with respect to the general good, but from a will physically endowed, premoved and predetermined by God, with the actual dominion over its own act, so that it both can and will, freely and infallibly, choose this rather than that. The whole choice comprising both existence and essence is caused by the human will, but differently under different aspects. Under the aspect of being and action produced by a created cause, the choice comes from the will acting as an instrument of God. Under the aspect of this choice of a particular kind, the action comes from the will itself acting as proper cause. The same action depends both upon God and upon the free will, but not in the same way, nor under the same aspect. If the action is defective and sinful, it is so as it comes from the free will, but not as it comes from God.

Because a free action is free, it is not necessary, either in itself or in its antecedents, but there are antecedents which are hypothetically necessary

for it to be, and once it is it has the necessity of contingent fact. As contingent, it has no proper cause in the sense of strictly necessary cause, but as free it has a proper cause, which is the free will physically premoved and predetermined by God to will freely and infallibly a certain act. Because the act is genuinely free, it is morally imputable to the free agent, and if culpably defective, the defectible agent is responsible. We have nothing which we have not received save only the sinfulness of our sinful acts. But we receive in a marvelous way, because it is God who works in us both to will and to do.

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Theology of Culture. By PAUL TILLICH. New York: Oxford University, 1959. Pp. 221. $4.00.

This comparatively small book on so large a subject as theology in its cultural aspects is really a summary of Paul Tillich's lifelong interest in religion. He is looked upon, in many quarters, as the greatest of the modern Protestant divines; and *Theology of Culture* will take its place, in the literature of religious opinion, as a very original piece of research.

After certain basic considerations in which the notion of religion is unfolded as the most indispensable element in a man's spiritual life, Tillich at once proceeds to make practical application of his theological principles in their relation to culture.

First the nature of religious language is examined, and more particularly, the meaning of religious symbols, their function, nature, how they correspond with reality and how they transcend it, and finally their relative and absolute truth. Thus, the Lord's Supper is symbolic, in the Protestant sense; which means that it has only poetic truth. So, too, is the divine maternity of Mary, and the virginal birth of her Son. The absolute truth of these articles of Catholic faith disappeared with the advent of Protestantism.

Next, the Protestant approach to the problems of culture is discussed, especially in its artistic forms. This is followed by an analysis of the current trends of existential philosophy: the ontological, psychological, and ethical contributions made by it to presentday thought, and the value these things have for a theology of culture. This leads naturally to a study of that dimension of human nature which is the object of psychoanalytic investigation. Then the matter of experimental science and its bearing on religion is examined; and here Albert Einstein's famous address on the subject, in which he rejects the idea of a personal God, is exposed and

criticized. The meaning of modern moral systems for culture is carefully studied under the double aspect of moralism, as an attitude of behaviour; and morality, as a form of behaviour. Next the problem of education is looked at in its theological foundations. The last sections of the book are devoted to cultural comparisons between Europe and America. The problem is set forth in concrete form as a contrast between religion in a Russian and communistic society, and religion in American society. This leads the author to a discussion of what Martin Buber has added to the development of Protestant theology. The concluding chapter of Tillich's book tells how the message of Christian culture is to be communicated to teachers and to ministers of the Gospel whose obligation, in turn, is to pass it on religiously to others.

The deep lines of thought on the author's face are a clue to the intense studies he has made of all these questions; yet to the Catholic thinker, his approach to the problems of culture must always exhibit those critical differences that mark off the traditional from the Protestant point of view —differences, moreover, that go down to the very roots of our Christian faith and inevitably condition one's attitude towards the meaning of Christian culture in its theological expression.

Thus for Tillich, religion is a matter of development, both internal and external. Such great names in the story of its theological unfolding as Augustine and Aquinas are merely historical moments in an ideogenesis that eventually led to the Protestant notion of God. A position of this kind tends, by its very *raison d'être*, to be at loggerheads with what is traditional; or, at any rate, with the supposed weaknesses of the traditional religion. This makes it dangerously exposed to the winds of modern doctrine, with which it must deal, not by an objective principle of authority, but by appeal to its norms of private interpretation. The Protestant theology, in fine, tends to be absorbed by the demands of modern thought, rather than to assimilate such thought into its system. The freedom it proclaims for itself must be logically allowed to the other ideological systems with which it has to deal. So it comes to pass that for scholars like Tillich, the final goal of all their cultural research is a theology that is expansive; that widens out and adapts itself, according to the needs of the day, to the original datum of revelation; that so bends and stretches itself to fit modern demands that it ends, inevitably, in some form of compromise. For men like Augustine and Aquinas, on the other hand, the problem of capital importance is not so much a theology of culture as the culture of theology; that is, an understanding, in all its fullness, of the revelation which was given by Christ and His apostles, a fulness that becomes more and more explicit as new systems of thought (scientific or philosophic) and new contingencies of time and place arise to challenge its adequacy.

Another arresting feature in Tillich's theology of culture is what he calls "a new approach to God." It is shaped designedly for souls that are

suffering from doubt and despair, and for those unfortunates who have lost their bearings in the maze of modern conflicting philosophies. All this is most commendable, and motivatedly a high ideal. But in it, there is always the implication that the new way to God is better than the traditional line of approach; that somehow the old system of belief has failed; that the form of supernaturalism which the Catholic rightly believes he has inherited from the founder of Christianity has not lived up to its promise. Still, men who have never followed the Catholic rule of faith, whose theology, in fact, was born in protest against it, can scarcely be sympathetic interpreters of its claims. Assuredly our Christian culture today comprises a wide variety of elements, all of which Paul Tillich endeavors to embrace in a single comprehensive view that is most praiseworthy. He is aware of its strength and its shortcomings, of its complexity of parts, and of its tendency, like every highly-wrought organism, to get out of gear through disease or malfunction. But the religion he is talking about is not identical with the religion that Thomas Aquinas professed and so ably defended; neither are its relations to art, politics, and human society the same as those that the Angelic Doctor thought to exist. I mention Saint Thomas for the simple reason that he is so thoroughly representative of the traditional supernaturalism of which Tillich speaks.

Thus the theological outlook of Aquinas, on the problems of culture, is essentially teleological. It has God, and man's final orientation towards God, as its object. This means that the central problem of culture is human nature, tending towards goods that perfect it in the acquisition of knowledge, in the cultivation of moral habits, in the conquest of the physical forces of nature and their subjection to the lawful goals of human living. At the same time, this following out of cultural aims is not really the summit of man's good, since it is subordinated to God who, alone, can be the absolutely last end of human culture. In short, the supernatural destiny of man, which is the vision of the divine Essence, does not prevent him from having a natural destiny, which is earthly happiness; but the temporal must yield to the eternal, always.

Paul Tillich has set down the principles that have guided his cultural researches for the past three decades. His enthusiasm is dynamic, his ambition a noble and religious one. Like all great moral thinkers of the past, he is haunted by the vision of a distraught humanity, nay more, a humanity wounded to death by its passions, its ignorance, and its errors. Into these wounds he would pour the oil of Christian wisdom, or what he sincerely conceives to be the truth and practical value of that wisdom. The reader should be warned that this is a concentrate of Tillich's thought, and that he will be able to assimilate it only by long reflection.

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The Idea of Freedom. By MORTIMER J. ADLER. Garden City: Doubleday and Company, 1958. Pp. 716, with bibliographies and indexes. $7.50.

"A man will turn over half a library to make one book." This remark of Samuel Johnson's will sound like understatement to a reader of *The Idea of Freedom.* Since 1952 Mortimer Adler and his staff of more than twenty researchers for the Institute for Philosophical Research have turned over a library on freedom so enormous that they call it simply "the literature." The bibliography is forty pages long.

The Institute was founded nine years ago and Dr. Adler has been its Director from the start. Its purpose is to take inventory of Western thought in order to find the basic agreements and disagreements among the varied philosophical theories of the last twenty-five centuries, "to clarify the prevailing philosophical diversity on basic subjects like freedom, law, justice, knowledge, or love, in the way that seems best suited to advancing the pursuit of truth." (p. xix) This first product of the Institute's program is a highly successful beginning. Another volume will follow to complete the work on freedom before other fundamental ideas receive the same treatment.

After a brief General Introduction which explains the objectives and methods of the Institute, there are two books of unequal length. The first is *Philosophical Discussion and Controversy,* which outlines in less than a hundred pages the procedures used by the researchers in their effort to chart the areas of agreement and disagreement In Book II, *The Discussion of Freedom,* the method is applied to the library on freedom. Book III, now in preparation, will complete the project on liberty. But the present volume can be understood without dependence on Book III.

For Adler and his coworkers it is a basic assumption that genuine agreements do exist among those who differ about freedom. The task they set themselves here is to reconstruct the age-old debate in an impartial, objective way. Regarding themselves as a corps of observers who listen to the discussion but do not participate, they aim to record it as accurately as they can, to report in neutral language the conversation, including the silences, of representative philosophers of freedom. Without taking sides or inquiring which conception is true, the observer (or "the dialectician," as he is called here) undertakes the creative work of extracting from the literature implicit as well as explicit positions and comparing them.

Readers familiar with scholastic logic will recognize in Book I the strong influence of Aristotle and medieval thinkers. The dialectical approach was used for theology in Abelard's *Sic et Non,* the *Sentences* of Peter Lombard, and the *Summae.* In philosophy, however, examples are harder to find. "The kind of independent dialectical work that Abelard and Lombard did for theology has never been done for philosophy, at least not in an equally comprehensive and sustained manner." (p. 77) Adler suggests that the

Disputed Questions of the medieval schoolmen are among the rare illustrations in the history of philosophy (p. 63, footnote). He is hopeful that the future progress of philosophy will be speeded if this kind of dialectical effort is undertaken today. But like so many advances in the physical sciences the acceleration must come from a division of labor rather than from individual genius; only by the joint effort of teams of researchers will many breakthroughs become possible. Book I is very well done. The exposition is careful and clear, especially with regard to terminology, and there is an abundance of apt examples. But the prime illustration is to be found in the five hundred pages of Book II.

The Discussion of Freedom is, on the whole, a successful application of the dialectical principles expounded earlier. On the hypothesis that the literature reveals at least three particular types of liberty, each the subject of a special controversy, and also a more general controversy about the general understanding of freedom, Adler poses these five problems for solution (p. 52):

(1) to identify the distinct freedoms which are the subjects of the special controversies;
(2) to identify the subject of the general controversy, i.e., freedom in general;
(3) to formulate the questions about each of these subjects which raise the issues that respectively comprise the controversies about them;
(4) to formulate the positions taken on each issue, together with the arguments pro and con that constitute the debate of these issues;
(5) to describe the form or structure of each controversy by reference to the ways in which its constituent issues and arguments are related.

The present work contains the solutions proposed for the first two of these five problems; Book III will attempt to resolve the others. After the laborious work of identification, Adler attaches the labels "circumstantial," "acquired," and "natural" to the three chief types of liberty, which are the main subjects of controversy.

The identification is established in two ways. First, by an inquiry into the manner in which freedom is possessed, the researchers find in the literature three modes: (1) a mode of liberty which depends upon favorable circumstances; (2) a mode "beyond circumstance" which depends upon virtue or wisdom; (3) a mode which depends upon human nature itself. A second identification of the same three freedoms is through the mode of *self* rather than the mode of possession, i.e., the ability or power of the self in virtue of which freedom is possessed. The three modes of self thus discovered are termed "self-realization," "self-perfection," and "self-determination."

Since a mode of self is always connected with a mode of possession, the

result of the double process of identification is the discovery of three freedoms: (1) circumstantial self-realization; (2) acquired self-perfection; (3) natural self-determination. The first enables one, "under favorable circumstances, to act as one wishes for one's own individual good as one sees it"; the second enables one, "through acquired virtue or wisdom, to will or live as one ought in conformity to the moral law or an ideal befitting human nature"; the last enables one, "by a power inherent in human nature, to change one's own character creatively by deciding for oneself what one shall do or shall become." (p. 606)

There are in addition two special variants of these basic types: political liberty and collective freedom. Political liberty, a special variant of circumstantial self-realization, is one which certain writers on liberty attribute to the individual in virtue of his political status as a citizen. Collective freedom, as the term is used here, is a special variant of acquired self-perfection; it is "a freedom which the human race will enjoy collectively in the future when it has achieved the ideal mode of association that is the goal of man's historical development." (p. 371) Chief among the authors who support this conception of freedom are Marx and Engels. And it is the *only* theory such authors propose.

The second problem, the identification of freedom in general, is more easily handled. In the final chapter human freedom is defined generically in this fashion: "a man is free who has in himself the ability or power whereby he can make what he does his own action and what he achieves his own property." (p. 614)

So brief a summary cannot do justice to the painstaking, unhurried, carefully organized presentation of the evidence in favor of these hypotheses. The discernment required to sort out the writers and their theories under one or more of these classifications, the penetration needed to distinguish between verbal agreements and conceptual differences, and vice versa, the impartiality demanded in the selection of representative authors—all these qualities are manifest throughout.

If at times in the welter of names and quotations the volume seems like an endless patchwork, it becomes on closer inspection more like a mosaic, for the patterns so laboriously pieced together are usually clear and intelligible. The authors cited are not only those found in the Great Books series, but many others also whose claim to immortality is limited. There is in fact a range which does credit to the Institute's tolerance as well as its thoroughness, though it may try the reader's patience no little. For example, we find writers whose theories extend freedom to irrational creatures and even to inanimate things. It would have been easier to ignore such excesses or to dismiss them with a remark like Einstein's comment on the notion that there is something like free will even in the routine process of nature: "That nonsense is not merely nonsense. It is objectionable nonsense."

Inevitably some writers stand out, Plato, Aristotle, Kant, and Dewey, for example. We would expect to find St. Thomas here, but it is a pleasure to see him not merely present but prominent, and even, in a sense, predominant. Almost one full page in the twenty-page Index lists references to St. Thomas in the text, more than any other writer. Among present-day philosophers, Yves Simon and Jacques Maritain are generously quoted, especially the latter. St. Thomas is one of the very few writers whose doctrine on liberty is comprehensive enough to entitle him to classification in four of the five categories mentioned. Except for the chapter on collective freedom, whose advocates are anarchists and Communists, St. Thomas figures notably.

On a canvas so large and so filled with detail we are not surprised to note blemishes. For example, in pointing out the distinction between the supernatural freedom given by divine grace (an "acquired" freedom, in Adler's terminology) and natural liberty, the author states that theologians from the time of St. Augustine on, "employed the Latin word *libertas* to designate the one and the phrase *liberum arbitrium* for the other. The English phrase 'Christian liberty' came to be used as a translation for *libertas*." (p. 136) This is only half true. *Libertas* is also used to signify *liberum arbitrium*, as, for example, in the following lines from the *Summa* in which St. Thomas substitutes *libertas* for *liberum arbitrium* in explaining a statement of St. Augustine: "Man is said to have lost free-will (*liberum arbitrium*) by falling into sin, not as to natural liberty (*libertatem*), which is freedom from coercion, but as regards freedom (*libertatem*) from fault and unhappiness." (*S. Theol.*, I, q. 83, a. 2, ad 3)

While the doctrine of St. Thomas is generally well presented, there is an undue stress upon his teaching that the blessed are not free with regard to the act of love of God clearly seen in the Beatific Vision (pp. 552-555). True as this is, it needs to be correlated with the further teaching that with respect to other goods those who see God face to face are free with both liberty of exercise and liberty of specification. It is misleading to say that man's natural freedom of self-determination "loses itself" in the bliss of seeing God (p. 568) and leads man to the condition where he will "choose no more." (p. 571) Grace does not destroy nature hereafter any more than it does here, and in Heaven too election with regard to things ordered to the end, which is the proper area for free will according to St. Thomas, remains intact. (In Hell likewise, everlasting obstinacy in sin does not deprive the damned of all use of liberty.) Though now unfree to sin, the blessed are freer than ever with a sinless liberty of wider scope and surer fulfillment. Heaven terminates the abuse of free will, not its use.

To neglect this feature of the life of Heaven is to lend color to the all too common supposition that sin is so tied to the will's liberty that when sin becomes impossible free will somehow disappears. This would make Hell, where the damned still misuse their liberty, seem a freer state than

Heaven. The sublimest illustration of how this fixity in the possession of God clearly seen leaves liberty unaffected except to improve it, is the human freedom of Jesus. Though He possessed the vision of the divine essence from the moment of His conception, He was the freest Man in history. His selection of the Apostles, for example, was a free human choice, as He reminded them, " You have not chosen Me, but I have chosen you." (*John* 15, 16) Free will is needed for sin, but sin is not needed for freedom. " To will evil is not liberty, nor is it part of liberty, though it is a kind of sign of liberty." (*De Ver.* q. 22, a. 6)

Treating of political liberty, Dr. Adler speaks of Aristotle's and " Aquinas' view that some men are by nature slaves." (p. 334) But St. Thomas traces slavery's origin to sin, not to human nature (I, q. 92, a. 1, ad 2), and he finds justification for the practice in the *jus gentium,* not the natural law (I-II, q. 94, a. 5, ad 3; II-II, q. 57, a. 3, ad 2). These distinctions, and others, set Aquinas far apart from Aristotle on this question.

The application of the research techniques is not foolproof, and the degree of research varies from author to author. It will astonish most readers to find Luther and Calvin listed among the partisans of the natural freedom of self-determination (pp. 416 ff.). In Luther's case the justification for this is a remark in his *Table Talk* and two statements from *De Servo Arbitrio.* Besides the mistake of assuming that a wilful and contradictory character like Luther was always consistent in his statements, there is also the error of attributing to Leo X, in *Exsurge Domine* (Denz. 776), and to the Council of Trent, the invention of a heresy to anathematize when they condemned the doctrine that " man's free will after the sin of Adam is lost and extinct, or a thing in name only, or rather a name without a thing, a figment brought into the Church by Satan.' (Denz. 815) Erasmus and Melancthon, whose censuring of Luther in this matter is cited by Adler (p. 415), knew Luther's mind better than Paul Tillich, whose attempted absolution of Luther is invalid (*Ibid.,* footnote 43).

What makes this seem odder still is the fact that St. Ambrose is left off the same list of self-determination authors because the literature studied did not furnish evidence for including him as a supporter of natural freedom. Surely the kind of research that can turn up stray lines from Luther and Calvin in apparent support of freedom of will should be able to unearth something favoring free will in the writings of a Doctor of the Church. Though Dr. Adler is careful to note that writers are sometimes omitted under a particular heading not because they deny the particular type of freedom in question but merely neglect or ignore it (p. 592), it is unfair to a man of the stature of St. Ambrose to confine investigation of his doctrine to one work. The only book cited is an English translation of his *Letters.* Yet a biographer of the Saint, discussing his ethical teaching, says, " The Freedom of the Will is strongly emphasized," and then documents the assertion with references to six different works (F. Homes Dudden,

The Life and Times of St. Ambrose, Oxford University Press, 1935, II, 509-510). It would have been better to omit St. Ambrose altogether than to categorize him misleadingly on incomplete information.

These criticisms, however, touch the surface of the work, not the substance. Judged as a whole, this is an exceptional contribution to the proper understanding of freedom and is sure to become one of the standard references for future studies in this field. Certainly there will now be less excuse than ever for the omnipresent equivocation concerning, freedom. Especially important is the chapter explaining the Marxist use of "liberty" to signify "collective freedom" and nothing more, all other conceptions of freedom being rejected or ignored.

This volume is so bulky that it may not attract the audience it should, and the sequel (Book III) promises to be just as large. Book I is short enough as it is, and in any case could not be easily condensed. But Book II could be abridged, and we hope the Institute has such a project planned after the appearance of Book III. A condensation of the complete study of freedom in four to five hundred pages, in a paperback edition perhaps, would be far more useful to the college and university student than this impressive, but massive, presentation of the evidence. We look forward to the next volume on freedom and all future productions of the Institute.

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La foi philosophique chez Jaspers et saint Thomas d'Aquin. By Bernard Welte. Translation from the German by Marc Zemb. Paris and Bruges: Desclée De Brouwer, 1958. Pp. 282. 129 Belgian francs.

This is a translation of a monograph originally published in the journal *Symposion* (vol. II, 1949) under the title: *Der philosophische Glaube bei Karl Jaspers und die Möglichkeit seiner Deutung durch die Thomistische Philosophie.* Although somewhat cumbersome, the German title is more informative since it brings out the tentative nature of this interpretation and the need to make an independent reading of Thomistic philosophy, instead of finding a strict correlate in St. Thomas himself.

Welte chooses a neat problem, since one of the unusual features in Karl Jaspers is the fact that he allows for a certain kind of faith within philosophy itself, while at the same time defending the need for rational appraisal of arguments. He requires a factor of faith precisely because of his interpretation of the common existentialist theme of transcendence. Some existentialists will grant that we can engage in transcendence, but

their meaning for it is that we can move from the self into the world as a type of reality distinct from our own free reflections. But for Jaspers, the domain of immanence is very broad. It includes not only the world surrounding us but also our human reality itself, at least in so far as it is proportioned to the world. Both the self and the world belong in the realm of immanence, which is able to include them as its mutual poles. The immanental aspect of man extends far beyond his brute presence as a fact, a contingent thing that comes and goes. It also embraces his acts of knowing and doing, in the sense that they must adapt themselves to conditions in the visible world of objects in order to become successful operations.

For Jaspers, then, transcendence is not characterized simply by surpassing human factuality but by reaching beyond the entire condition of immanence, inclusive of the everyday self and the world. But to engage in the act of transcending requires the use of more resources and other resources than our objective acts of knowing and making and doing can supply. For one thing, the term of the act of transcending is the nonobjective being of God. Who cannot be reduced to the status of a thing grasped by means of objective analyses. Hence when a man undertakes the search for transcendence, he must reveal another aspect of his reality, he must call upon some resources other than his ways of objective knowledge and practice. Jaspers concludes to the need for a nonobjectifying act of philosophical faith. It is philosophical and in the natural order, since it is needed in order to realize a capacity of our being for entering into relation with a reality transcending the polar immanence of the factual self and its world. Moreover, this act can be called an act of faith, since it does not bring the transcendent down to the level of a clear, objectively known thing but, rather, adapts our way of thinking to a reality which remains above us and never grasped with the same intrinsic evidence supplied by an object in our world. However, Jaspers warns, we cannot abandon rational standards and accept every claim to faith. We have to remain within our world and show that the immanent objects therein provide us with pointers to transcendence, even though these pointers remain quite cryptic and ambiguous. Each individual has to make his own free reading of the cypher and take his own risk in the act of transcending the world and the factual side of man.

Welte asks the question whether the theologian can profitably make a reading of Thomistic texts which will throw some light on the issues unearthed by Jaspers. Some of the natural human conditions for the reception of supernatural faith may be brought out through this comparative study. Hence in the second part of his work, the author reflects upon numerous texts in St. Thomas which can yield some meaning for the problems raised by Jaspers. In the course of this modern theological reading of St. Thomas, Welte relies heavily upon Karl Rahner's *Geist im Welt* and the various

publications of Father Lotz. He is most successful in reworking Father Rahner's theme that the doctrine on man is precisely an analysis of spirit-in-the-world. Here he can draw upon many Thomistic texts on the way of viewing the human spirit as a soul in matter and yet as having the capacity to transcend the whole material order. He acknowledges, however, that a good deal of interpretative activity is required to provide a Thomistic analogue for the existentialist and phenomenological concept of the world.

The difficulties mount when the counterpart is sought for philosophical faith. Welte stresses that knowledge in the human mode is strictly directed toward the natures of sensible things, and that the transcendent God remains obscure and ineffable to us. He also indicates some elements in the Thomistic notion of faith which have a resonance in Jaspers, especially the role of the will and free commitment in achieving assent. In order to make such notes applicable to a natural philosophical faith, he maintains that the Thomistic demonstration of the truth that God exists is a demonstration only in the sense of making us fully aware of an original certitude about the subsistent being as the absolute foundation of the self and the world. This demonstration "is, in sum, the simple explication of the *original ontological comprehension of reality* by man-turned-toward-phantasms." The words which Welte italicizes are key words for establishing the bridge to Jaspers. But he finds it difficult to show that they are firmly anchored down in the Thomistic texts in the sense in which his argument requires. Two specific points are not established: (a) that the demonstration is nothing more than an act of explication; (b) that the ontological comprehension in question is nothing more than an assent of faith in the absolute which thereafter requires only to be explicated. If these two points are not formulated in this exclusive form, then the references to faith and a natural desire are too broad to assure a basis in St. Thomas for the inductive conclusion that Jaspers' theory of philosophical faith provides a modern context for understanding the human conditions of revelation.

On the side of studies in Jaspers, one matter should be made clearer than appears in the French translation. Welte based his analysis of philosophical faith upon what Jaspers wrote somewhat indirectly on that subject in the years prior to the second World War. However, the most formal and extended treatments are to be found in Jaspers' postwar writings, especially in his book on philosophical faith, certain long chapters in his treatise on truth, and his exchange with Bultmann and other theologians on demythologizing Christianity. These developments have made the problem of relating Jaspers' conception of philosophical faith with the Christian view of supernatural and natural faith more acute than ever. Jaspers praises the openness of the man of philosophical faith, but he explicitly refuses to allow him to remain open to the Incarnation in the orthodox sense and to any claim of revelation based on the Incarnation. His attacks on the exclusiveness and universality of Christianity, as well as his relativizing of Jesus as

one of the men of wisdom, suggest that more work will have to be done in evaluating his notion of philosophical faith. It is still premature to treat it as one expression of man's perennial openness to the transcendent which finds a ready analogue and corrective in Thomistic philosophy and theology.

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Shaping the Christian Message. Edited by GERARD S. SLOYAN. New York: The Macmillan Co., 1958. Pp. 327. $5.50.

These " Essays in Religious Education " constitute an informative survey of the views of a particular school of thought upon catechetics at the primary level and on the level of " college theology." Divided into three parts, the first ensemble, entitled " Religious Education, an Historical Perspective," gives us Father Sloyan himself (Early Christianity to Medieval Times); Father Josef A. Jungmann, S. J. (Late Medieval Times); Father J. D. Crichton (England in the Penal Days); Chanoine Joseph Colomb, P. S. S. (Method of Saint Sulpice), and Father Pierre Ranwez, S. J. (Contemporary Tendencies). Each of the five essays is documented, and obviously the result of much research and/or experience. The fifth essay emphasizes the current tendency to adapt doctrine to the child, rather than the child to the doctrine, since the child is, of course, more interested in the " concrete," enjoys " participation," yet is an " individual " with " differences " from other individuals in the " group " of students. Each essay contributes to Father Sloyan's avowed purpose to " win the right to complain " that catechisms have " not fitted the child " (Introduction).

The second part, " Religious Education: Some Theological and Scientific Considerations," is chiefly concerned with primary education—presumably in Europe (?)—and the concept of " college theology " in the United States: Father François Coudreau, P. S. S. (Introduction to a Pedagogy of Faith); Chanoine André Boyer (Primary Religious Education and Primary Teaching); and Father Gustave Weigel, S. J. (The Meaning of Sacred Doctrine in College); Father John A. Hardon, S. J. (A New Era In College Religious Instruction). Nothing but a passing mention is given to what is also our great concern in the United States—the seventh through the fourteenth grades—unless the animadversions on the primary level are meant also to apply to the secondary. But the first two essays have " little first communicants " (p. 124) in mind and children at the " parish " level (p. 125) together with the " baby " and the " child of six or seven " in the " family " teaching situation. (pp. 162-167) Father Coudreau sets the theme of this section with the reminder: " The basic error, of course, is that we should

be obliged to choose between *instruction* and *formation*. It ought to be entirely evident that both pedagogical approaches contain much that is true, and that a person ought not to limit himself solely to one or the other point of view. That we are obliged to instruct, that is, transmit the content of the Faith is a truism beyond any need of discussion" (p. 131). Yet he seems to miss the point of the discussion that he implies is going on, namely, that it is not really concerned with this basic error at all but with the method of "transmitting the content of faith."

Of the two essays on "college theology" Father John A. Hardon's gives the complete picture. After a quick but competent survey of what has been going on in the Catholic college, census-wise and with respect to the changes in method, Father Hardon follows up with some concise thinking on "the effects in the teaching of college religion" of the doctrine of the Mystical Body, the principles of Catholic Action, and the revival of interest in Liturgy. (pp. 197-217) For the school with limited time and crowded schedule Father Hardon's recipe—which he does not propose as such—might well be tried as a curriculum. Of Father Weigel's clearly presented proposition, this reviewer would wonder whether he can be persuaded to "push" it for the high school level. He wishes method to be "expository" (not even controversial with regard to practical problems like evolution and birth control and divorce); "meaningful" and "pertinent to these young people"; with the students "immersed" in Catholic Action; and concerned with doctrine's "living data" . . . mainly two: Scripture and the liturgical life of the Church." (pp. 179-181) Surely this is something that should be begun, and practically finished, by the fourteenth year? And if it were, would it not be the foundation for something more in college?

Shaping the Christian Message in its third part, "Practical Considerations," takes the reader through Father Joannes Hofinger, S. J.'s, well-known descriptive definition of kerygmatic theology, but in its application to the formation of lay-catechists (CCD), sisters and brothers, and priests (The Formation Our Catechists Need); and a survey of Newman Clubs from the time when they were merely clubs somewhat tolerated by the hierarchy to the present evolution into something decidedly needful in the secular college learning situation—and in some instances actually endowed by bishops: Father James A. Maguire, writing from his abundant experience (Newman Work at the College and University). Father F. H. Drinkwater (The Use of Words: A Problem of Content and Method) has a sound instruction for all teachers whether they use a Bible, a Summa, a Manual, or a Missal; in fact, he seems to imply that it makes little difference. Master of the definition that he is, Father Drinkwater divides words, any words, into the scientific-difficult, the scientific-simple, the poetic difficult, and the poetic-simple (p. 274), for those who may be confronted with translating such words as "horn of salvation," "preternatural," "grace," or "distinction in persons," "oneness in being." Whether his favoring of

the poetic-simple simplifies his exemplar definition of " grace " (pp. 272-3), the reader must decide.

A well-presented proposal to confirm our youngsters " at the age of seven " closes this work, and is somewhat of an example of the method favored by the whole. Father Georges Delcuve, S. J. (Confirmation at the Age of Reason) argues for the salutary effect of such a practice upon youth, but especially upon the many who are contaminated at least in mind by their environment long before they receive the strengthening of the Holy Spirit (in the current practice of confirming at twelve or fourteen). Father Delcuve would prefer to associate the Sacrament of Baptism with the baptism of Christ and the Sacrament of Confirmation with His temptation, a departure from the Fathers and scholastics, as he acknowledges, who preferred to look upon Christ's baptism " as the prototype of both sacraments." Christ's baptism thus becomes the first step towards the passion (" the baptism wherewith I am to be baptized "), and His " confirmation " a strengthening for the struggle with Satan according to Christ's threefold rôle of Prophet, Priest, and King in the Paschal Mystery. The essay is divided into a Scriptural " argument," a liturgical complement, a survey of the mind of the Church in her documents, and a reflection upon the theological and psychological benefits accruing to the " child of seven " when he arrives at " conscious adherence " to the presence of God (p. 312).

This reviewer questions the gain in this " transmitting the content of the Faith," whether to theologians, or to the laity who will read this book, even though Father Delcuve is properly cautious in qualifying Christ's " confirmation " (sic). Will the dull reader, studying, remove the qualifying marks? Will the bright student wonder precisely what took place in this " confirmation "? An unhappy choice of words seems to be evident in the answer given: Christ " from this moment " (the desert episode) is " *very* clearly aware " (italics not his) of the " meaning of His life " with respect to His role as Prophet-Teacher, Priest, and King " in the Paschal Mystery "? (pp 293-294) (*More* so than at the age of twelve?) Again, what gain can there be over the past and " traditionalism " in teaching the effects of Confirmation in terms of " primarily," " more," " principally but not exclusively," " in a comprehensive sense," and according to " its highest function "? (p. 307)

The book is equipped with a good index. Its title is tactfully chosen, though Catholics have not been wont to think of the word of God as " The Christian Message." The basic presumption of the work seems to lie in the idea that one can " transmit the content of the Faith " without any " static " definitions and " tiresome " order (p. 32) *at all.* Is there any merit in a compromise?

Let us *drill* the first three grades as we used to do in a now-forgotten generation. (The " kiddies " are still foolish enough to be proud of their memory-work.) Give them a modicum of " participation " through " watch-

ing" the older grades "act" in the liturgy. Group "laboratories" in "catechismbees" would suffice, even if such would arouse their "horrible" spirit of competition, and fit them, slightly, for the world where competition will threaten at every corner. In the fourth through sixth grades let us be "expository," now that our Sisters are losing some of their fear of departing from the words of the book because so many are learning "demonstrated" definitions; and *drill* the pupils in active participation in the liturgy (in Latin, understood; like altars boys). But now let us change the method. The youngsters are not against old systems of catechism; they are against using the same method *all the time*. Surely by this time in the seventh and eighth grades all catechists should teach through the Scriptures, but in Pope Pius XII's way, "making a special effort not to limit themselves to an explanation of matters that belong to history . . ." but going on "to show above all the theological doctrine of faith and morals in each of the books or texts . . ." which "will help all the faithful to lead a holy life worthy of a Christian" (*Affiante Spiritu*, D. B. 2293). They should be immersed in the liturgy, having been drilled earlier, as becomes an art where memory lends itself to enhancement. Thus we shall be giving this restless age a new method of studying "creed, code, and cult" and the "same old definitions." Such a method would, of course, have to be continued into the ninth and tenth grades; the liturgy and the Scriptures are not *mastered* by those with so-called simple faith. For that matter, if some kind of "Pius XII motif" be preserved, let us continue the method into the eleventh and twelfth years, but also add the pragmatically practical: Marriage and Apologetics, for those who are about to leave the "protective association" for a world where smart remarks about God and religion are disturbing, and the aim of living, as Father Delcuve says implicitly, is to have fun with cars and girls and guns.

Then let the Catholic College Teachers of Sacred Doctrine continue, as Father Hardon encourages them, to thrash out what we can do in the United States—on such a foundation.

PHILIP L. HANLEY, O.P.

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BRIEF NOTICES

God And His Creation. College Texts in Theology, Vol. 1. By Richard Murphy, O.P.; Thomas Donlan, O.P.; Stephen Reidy, O.P.; Francis Cunningham, O.P. The Priory Press: Dubuque, 1958. Pp. 533, with Glossary and Index. $4.95.

Good College text books in theology are hard to find. The presentation of the doctrine ought to be mature, vital, and appealing; and while most texts have one or another of these qualities, few have them all. The text should be mature, that is, it should present the doctrine in a way that will challenge the college mind, the same mind that is being challenged in literature by critical appreciation of Dante and Shakespeare, in mathematics by advanced Calculus, and in sciences by college Physics, Qualitative and Quantitative Analysis, and so on. We do not mean that a college theology text should be rigged out with all sorts of formulae and forbidding equations, no, but it should have a solid, scientific basis, should assume that the mind is capable of reasoning maturely on the truths of our religion. Yet the text should also be vital, stimulating discussion, prodding the student into thinking for himself, relating the problems to his life, giving him some awareness of the tremendous power of the truth, and of the realities he studies, God, Christ, grace, the Church, eternal salvation. But finally, the book should be appealing. We have had examples of text books that have been both mature and vital but somehow not appealing to the students—to the American student anyhow. For even though teachers are reluctant to admit it, the final court of appeal for a theology text book is the classroom. The judgment of the students plays an even greater role here than in the experimental science, for the theology teacher cannot take the attitude of some of our science teachers: "It's all there in the book, let them get it out!" There should indeed be a business-like approach to the teaching of theology, with no suggestion of weakness: there should also be wisdom. And wisdom, I think, has shown that an enormous step has been taken in the teaching of the course if the students like the book.

While *God And His Creation* may not be the dream text, we nevertheless think the doctrine is presented in a mature, vital, and appealing way. The book is scientific, but not in deadening way that has made many priests, remembering their seminary texts, shudder at the word. The reasoning in the book is carried out with a strong sense of logic, but also with a sensitive awareness against excessive dependence on the syllogistic process. The doctrine of the *Magisterium* is presented gracefully, and

abundant Scriptural sources are in evidence. The exposition is smooth and carries out the plan of the book very well, we think.

Concerning that plan, it follows basically the First Part of the *Summa*. Two fine introductory chapters on the sources and nature of Theology acquaint the student with the role of Scripture, Tradition, the *Magisterium*, and the various other *fontes* of the science. The the student is brought into the study of the existence and nature of God, the Trinity, Creation, with separate tracts on the angels and man. The book concludes with a chapter on the governance of the universe by God. A useful glossary and index are also included.

We congratulate the Fathers of the Priory Press on this excellent book, and we hope that it will find its way into many college classrooms, as so many of their books already have.

THOMAS R. HEATH, O.P.

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Faith and Understanding in America. By GUSTAVE WEIGEL, S.J. New York: Macmillan, 1959. Pp. 170. $3.75.

Six of the nine essays in this collection, although somewhat revised, have already appeared elsewhere. There is, therefore, little in Fr. Weigel's current book which will be unfamiliar to those who have some acquaintance with his studies of the contemporary religious scene. Dealing with the problems of faith and world order in modern society, Fr. Weigel sees our "historical moment" as having begun after 1918. The period just prior to 1914 he recalls, somewhat nostalgically if not quite accurately, as one of social stability, but sees our own time, which is admittedly advanced materially, as not only highly unstable but spiritually retarded. Whether or not we are any more spiritually retarded than the post-Victorians, Fr. Weigel's contention that our age lacks a widespread "creative faith" is convincingly presented.

Like Toynbee, he argues that religion makes its society, although the making and preservation of society is not religion's primary concern. In its impact upon man's "inner vision" religion creates the source of a spontaneous order far more fundamental than that which the power of the State can achieve. In our historical moment, however, both communistic and democratic attempts to re-create social order have been naturalistic and secular. Consequently, Fr. Weigel says, "The tragic meaning of our moment is that its working vision of total reality is not creative."

Faced with modern secularistic naturalism, Protestantism finds itself in unaccustomed conflict with the present and confronted by the dilemma

of the necessity for a somewhat ironic alliance with Catholicism, its adversary from the past. Fr. Weigel outlines some of the difficulties in the way of collaboration without compromise which such an alliance involves. Catholics, for example, are faced with a problem of communication in dealing with non-Catholics. Catholicism has a continuing, traditional terminology, the very translation of which into the language of the moment may involve misunderstanding. Again, the Catholic sees the Church as God's way for man's salvation, and necessarily treats problems of world order with this persuasion as a basic concern. This frightens and confuses many non-Catholics, who, unmindful of the way in which religious persuasions affect their own approaches to social problems, see the question of Church and State as dominant in any discussion with Catholics.

It is, however, in his essay "Protestantism as a Catholic Concern" that Fr. Weigel exposes what is, perhaps, the most serious obstacle to collaboration between Catholicism and modern Protestantism. Fr. Weigel rightly insists that Neo-Orthodoxy, no less than the liberalism which survives in many Protestant circles, rejects supernaturalism as Catholics understand it. As a result, "a rapidly growing sector of Protestantism is effectively reducing the meeting ground in the Catholic substance which was preserved by the first Reformers." As for the popular religiosity represented by such men as Norman Vincent Peale, Fr. Weigel remarks, "Paul preached Christ and Him crucified. Peale preaches Christ successful . . ." and reduces God to little more than a "stockpile of free atomic energy."

But even though the meeting ground between them is being thus reduced, Fr. Weigel believes that Catholic and Protestant theologians can meet "efficiently and cordially in many small local groups." As he says, both logic and charity preclude Catholic participation in anything like the so-called World Council of Churches. Urgent as the need may be for Catholics and Protestants to engage in a dialogue of understanding, the Catholic approach to such a dialogue must be that of "St. Paul speaking in the shadow of the many altars of the Acropolis."

One recalls, however, that the Apostle went out from among the men of Athens leaving very few of them convinced, and it is probable that Fr. Weigel takes too sanguine a view of the possible fruitfulness of the discussions he proposes. As he himself says, by its very nature Protestant theology cannot answer Pilate's question: "What is truth?" Each Protestant theologian must construct his own statement of belief, whether he follows the Anglo-Catholic Norman Pittenger—whose theological method Fr. Weigel praises—or the latest liberal revision of Harnack. What emerges from dialogues with theologians in that situation is tragically interesting but unlikely to aid creative faith for this or any other age.

PAUL VAN K. THOMSON, Ph.D.

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Dialectical Materialism. By Gustav A. Wetter. Translated by Peter Heath. New York: Praeger, 1958. Pp. 609. $10.00.

The subtitle of this fine study by Fr. Wetter, "A Historical and Systematic Survey of Philosophy in the Soviet Union," indicates the broad scope and contemporary import of the work. This is a translation from the fourth German edition, revised and brought up to date (November, 1957) in view of the English translation.

Fr. Gustav Wetter, an internationally recognized authority on Marxism, was formerly Rector of the *Russicum,* the Pontifical institute of Russian studies in Rome. He has not sought to expound or analyze in detail the classical formulation of dialectical materialism by Marx and Engels, but to delineate the official Soviet interpretation of Marxist philosophy. There is not in the English language at present a more thorough or more accurate version of the philosophical scene in the U.S.S.R. The author has brought to his task a superb scholarship and an amazing familiarity with the vast field of Soviet scientific and philosophical publications. The reader is introduced to every major figure in the history of Soviet Marxism down to 1957. Wetter's book will be an invaluable source of information for the student of Communist thought for a long time to come.

The book is divided into an historical part and a much longer systematic part. The author's stated preoccupation with the philosophical doctrine has led him to pass rapidly over the historical background. The chapter on Marx—Engels has omitted much material of interest and significance in their lives, but an attempt has been made to trace instead their intellectual development from Left-wing Hegelianism to the complete statement of their own philosophical world-view. Fr. Wetter has been careful to trace the Marxist roots and orgins of Soviet doctrinal positions; his summary of early Russian Marxism links these to the classic sources in Marx and Engels. His treatment of Lenin and his evaluation of Leninism are undeniably based on a sound understanding of Lenin's contribution to Soviet Marxist theory: the Soviets might accuse Fr. Wetter, nevertheless, of divorcing Lenin's theory from his role as the father and guiding spirit of revolutionary Communism. More than any other individual, even more than Marx himself, Lenin has stamped Russian Communism with the seal of his own peculiar, evil genius. Fr. Wetter might have devoted closer attention to Lenin's activities after the October Revolution, a period of little speculative activity but much ideological discussion in the course of which Lenin laid out specifically the course to be followed by the Party as leading force in the new order.

Stalin's place in the Communist hierarchy is ambiguous: his gifts as Marxist theoretician were decidedly meagre, but for almost thirty years his malignant figure dominated the life of Soviet and world Communism in all of its aspects. In the doctrinal part of the book, Fr. Wetter distin-

guishes clearly the historical associations of each position and adds in each case a note on the official status of the doctrine. This part is prefaced by an excellent survey of the philosophical "atmosphere" in the U.S.S.R. and the characteristic qualities of philosophical work under the totalitarian regime. Wetter demonstrates convincingly his thesis that Soviet philosophy is no longer philosophy at all but rather a type of "godless theology:" it depends on revelation and the "holy scriptures," bows before the infallible authority of a "church," and distinguishes between "orthodoxy" and "heresy." These degrading qualities have given to Soviet philosophy its singularly sterile, barren, lifeless, and stereotyped character. Stalin's violent insistence on "partisanship" and "Socialist realism" has left the Soviet philosophical world in the grotesque position of denying the very end of philosophizing—the discovery of absolute, objective truth, while belligerently claiming for itself the only "scientific" vision of reality. There is no "peaceful coexistence" on the philosophical front: Communist art and science must be totally dedicated to and controlled by the political aims and ambitions of Soviet power.

In the course of his analysis of present-day dialectical materialism, Wetter depicts, calmly and dispassionately, what must be one of the more dramatic elements in Soviet thought, the clash between positivist tendencies and the officially sanctioned recognition of the autonomy of philosophy. The Soviets have rejected Engels' denial of philosophy's competence as a science of the real and have retained within its scope the world of nature and the course of history. The present work is confined exclusively to the philosophy of nature and logic, including the theory of knowledge: the author indicates his intention to publish in another volume an account of the Soviet philosophy of the State and society, economics and religion, and the other subjects comprised under the heading of historical materialism.

Each section includes appropriate critical remarks, many of which manifest an original and astounding degree of incisiveness. The conclusion sets forth in masterful fashion the basis of Catholic opposition to Marxism and leaves no question as to the ultimate and irreducible antagonism of the two systems. There is a thirty page bibliography, including a large number of works published by the Soviets in the Russian language, an index of names and an index of subjects. The translation is satisfactory. We recommend the book to every student of Communism and await eagerly Fr. Wetter's proposed study of historical materalism.

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Philosophies et philosophes américains. By HERMAS BASTIEN. Montreal: Les Frères des Écoles Chrétiennes, 1959. Pp. 267 with index.

This book is divided into four main sections. The first part is introductory in character and relatively brief while the last section is a brief but interesting concluding summation. The two middle sections contain the bulk of the book. They are a treatment of American Philosophies in Part II, and a treatment of American Philosophers in Part III.

The American Philosophies treated are pragmatism, idealism, neo-realism, critical realism, behaviourism, religious psychology and philosophy of education. The American Philosophers treated are Franklin, Emerson, Peirce, James, Royce, Dewey, Mead, Santayana and More. Some scholastic philosophers are briefly mentioned in the last section of the book.

An excellent section of the work is the part devoted to an account of the validity of the claims made by William James in support of pragmatism. The section on religious psychology is also of interest, the author being quite conversant with this subject, inasmuch as he wrote his doctoral dissertation on the religious psychology of William James.

Although one cannot hope for definitive treatments in a book as brief as this, it is perhaps to be regretted that more space was not apportioned to a treatment of the personalist tradition in American Philosophy. Students of American Philosophy are so close in time to the movements of pragmatism and naturalism that it is difficult to realize that at the turn of the century in this country idealism was the prevalent philosophy in the secular universities.

Bastien is to be commended for his inclusion in the final section of the book of some detailed information concerning the journals both scholastic and secular which treat of philosophical subjects in the United States. His account of the Thomistic revival in this country is briefer than one would wish but it is succinct and contains many valuable insights.

A few mistakes in the printing mar some sections of this otherwise valuable work. The name of Peirce, for instance, (p. 15) is misspelled as is that of Buchanan. (p. 240)

The book will be of value to those who are beginning their study of American Philosophy. Advanced students will profit from the author's critique of Jamesian pragmatism and his comments on religious psychology. All who are interested in American Philosophy will profit from this account given by such a friendly and perceptive critic.

JESSE A. MANN

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Our Life of Grace. By Canon F. Cuttaz. Translated by Angeline Bouchard. Chicago: Fides Publishers, 1958. Pp. 334. $6.95.

In publishing Canon Cuttaz' book in translation, Fides has presented to the English-speaking educated Catholic an excellent theological work, whose professed aim is to lead him to a better life.

The book is divided into three sections: the formal effects of grace—the seed of glory and resurrection, partaking of the nature of God, divine adoption, justification; the effects of grace distinct from grace—God's special presence in the soul, the infused virtues, the sources of actual graces, the gifts of the Holy Spirit; and lastly, the effects of grace that stem from our prayers and good works—the power of glorification and impetration, the power to merit, the power to make satisfaction, grace as a supernatural life. This material is followed by an epilogue and some conclusions on the nature and value of grace.

Even the arrangement of the matter shows that the emphasis is rightly put on sanctifying grace and the controversial aspect of actual grace is given little play. In this the Canon shows himself in the spirit of St. Thomas. The author strives to develop his subject as a speculative theologian, in that he does not merely give exegesis of the Bible, the Fathers and St. Thomas; he forges ahead, if at times hesitantly, and occasionally arrives at conclusions that we may well find unacceptable. Unfortunately, the text has a number of flaws that a more precise theological and grammatical editing could have avoided. We will leave the details of these to more extensive reviews and to the scrutiny of the careful reader.

Basically he uses a scholastic approach. Scripture is employed, for the most part, with due scholarliness, as is the liturgy. Yet there are annoying lapses of theological acumen. For instance, writing that the conditions for merit are: a morally good act freely performed by one in the state of grace, the author makes this remark (p. 285): "Our Lord has told us that even the giving of a glass of water will not be unrewarded (cf. Mt. 10:42)." If the reader recalls or confers the cited passage he will find it qualified by the words: "because he is a disciple." An important element is eliminated from the citation, that is, its motive, and the citation thus loses its theological force. Even though the full text would substantiate what Canon Cuttaz wishes to prove, he does not, apparently, see its value.

Another place where faulty theological reasoning appears is to be found in his statement on Our Lady (p. 281): "Her merits, like our own, were personal." This is true, but must we exclude a supremely congruous, universal merit from her, if it can be theologically established that God has so willed to accept Mary's merits in a special way?

As St. Thomas insists: *meritum homminis apud Deum esse non potest nisi secundum presuppositum divinae ordinationis* (*Summa Theol.*, I-II, q. 114, a. 1, in corp. et ad 3um). Furthermore, in III, q. 8, he places the *gratia*

capitalis in the sacred humanity of Christ. Mary as the Mother of God, as the Mother of the whole Christ, could well have her works specially accepted by God not only for herself, but for all mankind. The *principium quo* of the merits of Christ is His finite humanity. There is nothing incompatible with the finite merits of Mary being acceptable, through Christ, for all mankind. One does not expect the author of a book on grace to go into all details, but in those that he does discuss, he should not exclude theological possibilities, much less truths that are theologically certain.

JUNIPER CUMMINGS, O.F.M. CONV.

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The Philosophy of Kant and Our Modern World. Edited by CHARLES W. HENDEL. New York: Liberal Arts Press, 1957. Pp. 132. $2.75.

The four short essays comprising this work were first offered by staff members of Yale University as lectures to the general student body in 1955 to commemorate the 150th anniversary of Kant's death, " in the conviction that his ideas and reasonings are of particular value for us in our present world." The lectures achieve their end only with varying degrees of success.

Prof. George Schrader's " The Philosophy of Existence " suffers from hesitation. He seems undecided whether to address himself to the undergraduates or to his colleagues, whether to assume a great deal and proceed therefrom or to begin with little and to achieve little more. Being of a halting mind, he reaches a lame conclusion: " I have not attempted to make out that Kant was the *first* existentialist or even the father of existentialism. He is, however, the most important philosophical influence upon the existentialist philosophers. . . . But we must hasten to add that Kant was even more directly the progenitor of Hegelian idealism, which is taken by many to be the direct antithesis of existentialism. . . ." *Et cetera.*

Prof. René Wellek's " Aesthetics and Criticism " suffers from confusion. He seems to assume that literary criticism is a branch of philosophy, for it is simply an applied philosophy of art. But here he is not alone, and the question may be controverted. He concludes that Kant " is the founder of modern aesthetics. He has put clearly some of the central problems to which aesthetic thinking will have to return: the question of the autonomy of art, the problem of criticism, its subjectivity or objectivity, the relation of nature and art. . ." *Et alia.*

Prof. Charles W. Hendel's " Freedom, Democracy and Peace " suffers from dissolution. He seems to waste a deep analysis on a superficial con-

clusion. He examines Kant's "philosophical argument concerning freedom, democracy and peace" in a way which is original, well documented, irreproachably scholarly and probably correct. He concludes that "Reason, faith, hope, duty, law, freedom, responsibility, peace, the last thoughts of Kant . . . and practical ones for his world, are still practical for us in our present world." *Et palea.*

Prof. John E. Smith's "The Question of Man" excels by comparison. He seems to think that Kant's significance for our time is greater than is often thought. "The fact that Kant denied man's ability to satisfy the demand of his reason in theoretical terms should not cause us to lose sight of the fact that he continued to believe in the presence and power of reason even in the theoretical sphere itself. The skepticism of Kant . . . has certainly been overdone. . . . He never tired of stressing the inevitability with which the Ideas of reason arise, and of stating that although we cannot exactly do with them, we also cannot do without them." "Kant's way out of the dilemma . . . is to replace the theoretical ideal of metaphysics . . . with the ideal of what he called the 'whole vocation of man'—the bearing of all knowledge upon the interests, concerns, and ultimate destiny of man." Thus, if anything "expresses or sums up more neatly than any other Kant's view of the nature of man . . ., it is the idea of man as *active* or *living* reason." Is this not important for modern man as, indeed, for every man? Yes, is his conclusion. For, "what this means is that, through freedom, man's task is to *will* the internal connection between his own individual reason and the moral law, or that reason which is universal for all men." *Inter possibilia.*

Prof. Smith does what he can to redeem this volume. Altogether, I would say, it is not a "must," but probably a "should," in the reading lists of undergraduate students majoring in philosophy at Yale University.

LESLIE DEWART

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Augustine: Philosopher of Freedom. By MARY T. CLARK, R.S.C.J. New York: Desclee Co., 1959. Pp. 273, with index. $4.50.

The problem of freedom can not fail to interest men in every age who cherish this precious endowment and seek to explore ever more fully its essential meaning and scope. While inquiries about this mysterious quality of the human person are always welcomed, there is today a particular timeliness and even urgency for whatever may shed light on man's moral

nature and inherent capacity for social and political existence. In the face of threats to political freedom it is perhaps understandable that current discussions should point up the more negative aspects of freedom and emphasize what man should be free *from* rather than what he is free *for*. Mother Clark's work, by contrast, sets out to describe the primary and more positive role of freedom as seen in the light of its metaphysical roots and natural orientation towards the *good* and, ultimately, towards God in Whom alone the created person finds its supreme happiness and most authentic freedom.

Saint Augustine is, of course, the central figure and point of reference for Mother Clark's inquiry into the origins and development of the notion of freedom. It is interesting to note with the author the inter-relation between freedom and personality in Greek thought and to see how the failure of Greek speculation to grasp freedom adequately was largely owing to its inability to discover human personality fully. Special attention is properly given to the contribution of Plotinus, last of the great philosophers in the Greek tradition, since he is probably the principal source for Augustine's neo-Platonism. If this eminent neo-Platonist marks a definite advance over Aristotle's disciplinarian description of will, he fails nevertheless to assign to the human person the true measure of autonomy and self-determination discovered only later by philosophers operating within the milieu of the Christian Revelation. In the final analysis, it was impossible for Plotinus to assimilate the datum and living experience of personal freedom into the framework of a strict necessitarian system. The author's examination of this basic antinomy leads her to conclude that "The human liberty that Plotinus the man affirmed was contradicted by Plotinus the philosopher" (p. 135), a view that confirms Fr. Paul Henry's earlier verdict that human freedom in Plotinus is affirmed but left undemonstrated.

The several chapters dealing directly with St. Augustine's doctrine of freedom are the most thorough and original part of Mother Clark's work and, in this reviewer's judgment, fully justify her position that "St. Augustine's insight into the significance of free will as a faculty for the perfection of the person characterized him as a pioneer philosopher of freedom." (p. 82) For, guided by the deeper insight into the personal nature of the Triune God, revealed in the Trinitarian dogma, Augustine was led to explore the depth and dynamism of the created person and so to see in human personality the true key to an understanding of freedom.

By taking due account of the progress of Augustine's thinking on freedom through her skilful confrontation of the Dialogues, particularly the *De libero arbitrio*, with the later anti-Pelagian writings, the author has happily avoided the serious doctrinal distortions prevalent in much of the theological literature of the last three centuries. Mother Clark's scrupulous examination of the pertinent texts not only demonstrates the validity and

necessity of Augustine's distinction between free choice (*liberum arbitrium*) and freedom (*libertas*), but also makes it clear that these are really two aspects of the same basic attribute of the human person. Augustine's anti-Manichaean and anti-Pelagian writings are fundamentally consistent in doctrine and merely emphasize, as the different occasions required, the respective aspects which the Saint always distinguished but never separated.

In keeping with the comparative scope of the work, St. Anselm and St. Thomas Aquinas are singled out as representatives of the scholastic tradition which preserved and perpetuated the essence of Augustine's doctrine on freedom while conferring upon it greater dialectical precision. Something of the perennial appeal and actuality of Augustine's thinking on freedom can be gathered from the author's concluding chapter devoted to philosophers of freedom in our own age.

Mother Clark's work is truly a significant and original contribution to Augustinian scholarship on a subject vital to all who value human personality and its precious birthright of freedom.

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The Dogma of The Immaculate Conception. Edited by Edward D. O'Connor, C.S.C. University of Notre Dame Press, 1958. Pp. 665. $10.00.

It would seem to be evident that this volume, in its conception, its writing and its editing was intended to be as broad and as deep a study of the Immaculate Conception as man is capable of at the present time. And it succeeds in being just about that. A symposium, drawing on the resources of European, Canadian and American scholarship, it presents a full and many-angled picture of this doctrine. Inevitably, much of the material has already been presented in other studies; but this does not subtract from the vigor and the authority with which it is presented here. Too, since the work of thirteen authors and several translators is involved there is an expected uneveness in the clarity of the presentation. But the overall impression is that this is a well rounded, scientific and readable work.

The introductory chapter by Monsignor Journet is a provocative study of the doctrine of the Immaculate Conception in Scripture and of the principles of the evolution of dogma. This includes a fresh and stimulating working out of the relations among revelation, tradition and inspired scripture. Journet comes to the conclusion that in determining the first

foundations of the doctrine of the Immaculate Conception in divine revelation, " we will not seek them in an oral tradition parallel to Sacred Scripture, but rather . . . in Scripture itself, as a condensation of the apostolic tradition that was read by the primitive Church in the light of the Holly Spirit who assists her." He then embarks on a study of Luke and John in an attempt to gain the understanding of the evangelists possessed by the primitive Church who read them with the eyes of faith and attentive to the mystery of the Incarnation. Throughout the course of this study, he is insistent on respect being paid to the analogy of faith, always careful not to consider the data concerning Mary in isolation but in their place in the revelation of the doctrine of salvation.

Given this introduction and sketch of the principles of the development of dogma, the first major of the volume is concerned with the history of the dogma of the Immaculate Conception. Consideration is given to the Fathers by Monsignor Joussard, to the Byzantine Church by Francis Dvornik, to the Liturgy by the Rev. Mr. C. A. Bouman, to the medieval controversy by Fr. Balic, O. F. M., to the controversy after Scotus by Fr. Sebastian, O. F. M., and to the role of the papal magisterium in the development of the doctrine by Fr. Laurentin. These six chapters provide a mass of information, not exhaustive as each author takes pains to point out, but still presenting a welcome compilation of facts, insights and conclusions. This is not to say that these chapters are mere compiltations of facts; all of them succeed admirably in showing the gradual maturation of the dogma. Laurentin's consideration of the papal magisterium is particularly interesting. The key study in this part is worked out in rebuttal of Turmel's assertion that there have been inconsistencies and contradictions in the teaching of the popes.

The second part of the volume deals with the theology of the Immaculate Conception in four chapters. These chapters represent an attempt to penetrate the doctrine. Fr. Nicolas, O. P. presents an exposition of the doctrine in itself, looking carefully into the doctrine of original sin and examining the divine maternity as the reason for the Immaculate Conception. Fr. Urban Mullany, O. P. contributes a finely reasoned analysis of the place of the Immaculate Conception in God's plan of creation and salvation. Charles De Koninck provides a lengthy consideration of the relations of the Immaculate Conception to the divine maternity, the Assumption, and, particularly, the coredemption. This second part is concluded by Fr. O'Connor, C. S. C., the editor of the volume, with a thoughtful study of the personal holiness of Mary and the meaning of the Immaculate Conception for our spiritual lives.

There are two supplementary studies, both unexpected in a volume of this kind and both very interesting. Fr. George Anawati, O. P. considers Islam and the doctrine of the Immaculate Conception, coming to the conclusion that Catholics who find evidence of this doctrine in Islamic texts

are providing only a Christian interpretation of the data. Maurice Vloberg discusses the iconography of the Immaculate Conception. In connection with this very interesting chapter there is an insert of twenty six plates. Another unusual feature of the volume is an appendix of five documents—three versions of the legend of Anna and Joachim, a medieval sermon, and a selection of the *Aurora* of Peter Riga concerning the biblical symbols of Mary.

Perhaps the most striking part of the entire volume is the mass of bibliographical material. Just under one hundred pages are given to listing of works on the Immaculate Conception published since 1830. The works are arranged by language (English, French, German, Italian, Latin, Spanish) and then put in chronological order. An index to the authors named in the bibliography is also provided.

The vision, the skill and the diligence of the editor are everywhere evident in this volume. Fr. O'Connor has earned the gratitude of all serious students of Mariology for so courageously and ably undertaking this comprehensive work.

William F. Hogan, S. T. D.

Immaculate Conception Seminary,
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In Search of Man. By André Missenard. Translated by L. G. Blochman. New York: Hawthorn Books, Inc., 1957.

As the title *In Search of Man,* suggests, the book under review is concerned with finding man, not so much as he is today, but rather as he could be—at least as he could be in the mind of the author. Dr. Missenard, according to the dust jacket and the short biography inserted at the end of the book, is an engineer with strong inclinations to education and writing. His scientific status is indicated by his membership in the *Conseil Superieur de la Recherche Scientifique*; his literary accomplishments are suggested by his having won honors from the Académie Française for his book, *L'Homme et le Climat.* The present work summarizes the results of research carried on with Dr. Alexis Carrel at the French Foundation for the Study of Human Problems. And, indeed, it has been suggested that the book is a worthy successor to Carrel's famous, *Man, the Unknown.*

In his search for man, Dr. Missenard briefly surveys the major forces which affect man's development and considers some of the ways these could be controlled so as to produce a better man. These forces are considered to be: chemical (diet and chemical environment), physical (climate and geographical environment), and psychical (education and social environment). Preliminary to this, the author summarily examines what might be called the "pre-environmental" factors: genetics and heredity.

To support his thesis, the author draws upon a wide variety of sources, and cites numerous examples to illustrate his points. He sees man as substantially influenced by the environmental forces already mentioned. With regard to diet, for example, it is the author's contention that in many respects the primitive was wiser in his choice of food than the modern man, that the type of food man eats not only is a factor in bodily health, but is also very important for the health of the mind. Dr. Missenard maintains that climate has important effects on mortality, fertility and efficiency, and points out that this had already been recognized to some extent by Hippocrates. And from the differences in climate spring divergences in morals and manners. Those races living in the northern, cold climates are more energetic and courageous, while the inhabitants of warmer lands of the Mediterranean tend to dream and idleness.

Although Dr. Missenard's wide knowledge is patent from the material presented in this book, it is also quite clear that not all of it has been adequately assimilated. A few statements are absurd, such as: "In a word, true twins are at birth the same physical and moral individual occupying two bodies. . . ." (p. 84) Others are questionable, even from a purely scientific point of view, as, for example, his treatment of the role of vitamin E in which the author fails to make a necessary distinction: that vitamin E is necessary for fertility in *rats and mice,* but to date the weight of evidence favors that it has no effect on *human* fertility. And again, he introduces the old canard about the vitalism-versus-materialism conflict; he does not seem to realize that the vitalism of Hans Driesch is by no means the same as the 'vitalism" of Aristotle and the Thomists. His concept of morality is questionable: "Morals are essentially a set of rules for practical living designed to achieve the greatest statistical happiness." (p. 207)

Although much of the book may include valid observations on the influences of the various forces enumerated above, the most essential factor in the formation of man is practically overlooked. He does, it is true, give a conventional nod to religion, but it barely exceeds one page. It is impossible to have a true evaluation of man without viewing him against a background of a universe created by a supreme, personal God. In fact, in the present economy of things, unless the existence of the supernatural order be recognized and the fact of man's call to share in this order be appreciated, the history of man does not make sense. Proof for this need not be syllogistic; one needs only to consult the overwhelming majority of modern literary works to see what is left of man when he is torn out of a theological framework. The search for man will be utterly in vain if he is not sought for in his Father's house.

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